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THE

DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

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THE DUBLIN JOURNAL

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MEDICAL SCIENCE.

JULY 2, 1900.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*Epidemic Cerebro-Spinal Meningitis.*[a] By HENRY C. DRURY, M.D., Univ. Dubl.; F.R.C.P.I.; Assistant Physician to Sir Patrick Dun's Hospital; Physician to Cork-street Fever Hospital, Dublin.

EPIDEMIC cerebro-spinal meningitis was first recognised in Geneva in 1805, and at more or less wide intervals has appeared in larger or smaller epidemics in Europe and America since that time. It was first recognised in Ireland in 1846. Then in the autumn and winter of 1866–67 a very considerable outbreak occurred here, and again in 1885–86 a minor epidemic appeared.

It is said that the Dublin epidemic of 1866-67 was the most severe manifestation of the disease that has ever appeared in the British Islands. Its fatality was so marked that, with the prevalence of a hæmorrhagic rash, it was, most improperly, called "Black Death," or more appropriately "Malignant Purpuric Fever."

It appears that we have entered on another epidemic of this disease in Dublin, so far, of a comparatively mild type, and not as yet extensive, and since hitherto it has appeared to be favoured by cold wintry weather, we will hope that

[a] Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, May 18, 1900. [For the discussion on this paper, see page 65.]

the present small epidemic will decrease rapidly with the near approach of summer.

The essential morbid condition is an inflammation of the membranes of the brain and spinal cord. If death has occurred early in the disease nothing more may be apparent to the naked eye, in these parts, than some hyperæmia of the membranes; but, as is more usual, where death has been delayed for some days, pus is found at the base of the brain or over the hemispheres, or in both places, and extending down the cord to the cauda equina. There is nothing in the naked eye morbid appearances to distinguish epidemic meningitis from any other non-tubercular meningitis of the brain and cord.

The pus, or cerebro-spinal fluid, contains, however, a coccus, described first in 1885 by Leichtenstern, later and more fully in 1887 by Weichselbaum, who called it "Diplococcus intracellularis meningitidis." This somewhat resembles the diplococcus of pneumonia, and as a meningitis sometimes occurs with pneumonia, which yields the diplococcus on examination, and as again a pure cultivation of this pneumococcus injected into the cranial cavity of certain animals produces meningitis, and into their lungs produces pneumonia, it was, and is still, considered by some that epidemic meningitis was produced by the pneumococcus, infecting the meninges of the brain and cord, and not by a coccus peculiar to itself.

But there are certain salient features, more suitably dealt with by the pathologist than by the clinical physician, which serve to distinguish the two. Suffice it to say that its mode of growth, the media most suitable, and the stains to which it is susceptible or insusceptible, make it practically certain that the diplococcus of pneumonia and the diplococcus intracellularis found in epidemic cerebro-spinal meningitis are not identical. A case which I will mention later on illustrates this contention in a very striking manner.

Of the ætiology of the disease we know practically nothing. A diplococcus has been isolated (discovered in 1887, confirmed in 1895) which it is believed is the undoubted immediate cause, but where the coccus comes

from and how it is transmitted is still a mystery. Jaeger, who made an elaborate study of the disease in the German army, found that apparently sporadic cases really radiated from a common centre, and that these sporadic cases formed new centres from which the disease again radiated. He believed that the organisms lay latent for long periods in dust. Dr. Upham, who had great experience of epidemics in America, says:—"The cases are distributed amongst all classes and grades of society—the high and low, the rich and poor—locations unexceptionable for situation, open to abundant light and air, and the pent-up hovels of the lowly and wretched, have all contributed to the material of the epidemic. We believe, therefore, that the primal origin of the disease is atmospheric, and, for the present, beyond our ken." This was before the discovery of the diplococcus, but it otherwise expresses pretty well our present knowledge.

There is a general agreement amongst writers on the disease that it is not contagious. Leichtenstern found that in 180 cases in which the dwelling could be ascertained, 150 came from separate houses. Vieusseaux says that the attendants on the sick and the neighbours remain free from it. Berg, in the New York epidemic of 1893, could not find a single case in which two or more members of the same family were affected. Richter, however, believes that it may be contagious, and gives instances. It was pointed out by Scherer in 1895 that the organisms are found in the nasal secretions, and that this is one of the principal channels for its dissemination. Dr. O'Sullivan has examined some of this secretion for me, and will give his results himself. It is conceivable, also, that in cases of otorrhœa we may have another source of infection, and again where the lungs are affected the expectoration may be a source for the dissemination of the infection.

Certain diagnosis before or after death may be made by an examination of the fluid present in the spinal canal, as obtained by the method of "lumbar puncture," without any ill effect to the patient before death, and without the necessity of an ordinary *post mortem* examination after death. This lumbar puncture is performed

by introducing a carefully sterilised aspirator needle between the spines of the 2nd and 3rd, or 3rd and 4th lumbar vertebræ in the middle line. The body should be bent forward in order to obtain more room, and this is the only difficulty met with before death, as there is usually, if not actual opisthotonos, at least rigidity of the spinal muscles which may make it impossible to get the body curved forward. The operation is little more painful than an ordinary hypodermic puncture, and a period of insensibility during the course of the disease may be utilised for the purpose; if not, and the patient appears partly conscious, slight freezing of the skin will allow of the puncture being made without the patient feeling it at all. In the fluid obtained will be found the "diplococcus intracellularis" if the case be one of epidemic cerebro-spinal meningitis.

The symptoms of the disease are, briefly, those of meningitis with some special peculiarities, some of which are usually present. Of these early retraction of the head is important and very constantly seen; the spasm may extend to the back muscles causing opisthotonos. These conditions are produced by irritation of the spinal nerves as they pass through the membranes. To the same cause is due the pain complained of, especially in the limbs, and the hyperæsthesia of the whole surface of the body.

Herpes labialis is also very frequently present, and often very extensive; it is more constant than any other skin affection, and may appear not only on the lips and nose, but on other parts of the body. Leichtenstern found it in 26 out of 29 cases. An eruption of petechial spots is so constant in some epidemics, that the early American name for the disease was "Spotted Fever," and with us "Malignant Purpuric Fever." This rash may appear early and be very copious, but bears little relation to the severity of the disease; it may, moreover, be entirely absent, and is really an unimportant feature. One observer found it in only 4 out of 80 cases. Vieusseaux does not mention skin lesions at all, so we may infer they were not present in his cases. Very few have been met with in the present epidemic. In no case has the diplococcus been obtained from a skin lesion.

Inflammation of the conjunctivæ of the iris, or of the whole uveal tract leading to destruction of the affected eye is not unfrequently seen; usually only one eye, and that the right, is attacked (Grimshaw).

Deafness is also frequent, with or without purulent discharge from the ear. Recovery from this may occur wholly, in part, or not at all.

Not unfrequently there is swelling and redness of some of the joints like that of acute rheumatism. This may be due to a serous effusion which may quite disappear, or to a purulent effusion which may disorganise the joint.

It is not uncommon to meet with either broncho- or lobar pneumonia at the commencement of, during the course of, or late in the disease. Cases of this sort having been verified by *post mortem* examination, or by lumbar puncture, and subsequent microscopic examination, it is certain that they were not merely cases of ordinary pneumonia with accidental meningitis, but that the meningitis was the essential feature, and pneumonia the accidental complication.

Case I.—The first case I met with was in November last. The patient, M. D. (male), aged 20, was sent to Cork-street Fever Hospital on 18th November, 1899, by Dr. Nesbitt Wynne. I must here confess that it was only in the light of subsequent events that I came to the conclusion that the case was one of epidemic cerebro-spinal meningitis.

The history we obtained was that he was at his business—a grocer's assistant—quite well, till Wednesday, when he complained of headache and vomiting. By Thursday morning he was unconscious, and wildly delirious on Friday. He had no diarrhœa, a very slight cough, and slept very little. He was admitted to hospital on Saturday, and was still in a wildly delirious condition, requiring a special attendant. There was a copious eruption of herpes on both upper and lower lips on right side. There was internal strabismus of left eye—some of his friends said he always had this ; others were positive he had not had it before. Nothing abnormal could be found in the lungs. Heart sounds were healthy and good. Abdomen was not distended. There was a tympanitic note over the splenic region, and dulness along the ascending colon. The tongue was furred, but stripping. There was no rash. The motions caused by a purgative were formed and dark. There was a small septic blister on right wrist. The temperature—at first

104·5°—and pulse 84, were, on the evening of second day, temperature 98°, pulse 116, showing thus a marked want of harmony. For six days the delirium continued, requiring sedatives to procure any degree of rest, becoming, however, quieter and more easily controlled from day to day. He then lay in a condition of absolute unconsciousness, passing all evacuations under him, the bowels, however, never acting except after purgative medicine, and the motions always being of a dark character. There was rigidity, but no actual retraction of neck and back. On the 16th day one doubtful "rose spot" was found on the abdomen, but it was noted at the time with a "query," and no others appeared. His temperature ran a rather irregular course, rising little above 102° till the 16th day; from that gradually but irregularly subsiding to normal on the 40th day. The pulse, though regular in rhythm, showed through the whole course of his illness great variation in frequency, being sometimes 84, at other times 110, and this variation being noticed in the course of a few hours. The extremities were always cyanosed and cold. During the whole period of unconsciousness he took nourishment freely, and as there were no signs or symptoms of enteric he was given bread crumbs, &c., from the 27th day onward. On the 31st day he was given coffee, and, by a curious coincidence, he that evening became quite conscious and remained so; but also it was found that he was quite deaf. He had developed a purulent otitis in right ear about the middle of his illness, but was deaf in both ears. He was allowed up on the 43rd day of his illness, a shadow of his former self, for though he had taken abundance of nourishment freely throughout his illness he had emaciated with great rapidity and to an extreme degree. He left hospital on 4th February, 1900, three and a half months after admission, but deaf and with left internal strabismus. I heard a short time ago that he was still deaf.

The case is of great interest from the diagnostic point of view. Apart from early delirium, followed by continued unconsciousness and slight rigidity, he had no meningeal symptoms. Though typhoid symptoms were absent, the temperature chart and gradual recovery drove us to the conclusion that it must be an erratic case of enteric, for want of a better diagnosis. But as I have said in the light of subsequent cases, the sudden onset, the stupor, the herpes, the pulse, the profound deafness without apparent cause, the great emaciation, lead me to believe that the case was really one of epidemic cerebro-spinal meningitis.

Case II.—The second case was a boy, J. McC., aged 12, admitted to Cork-street Fever Hospital on 20th Feb., 1900, being the second day of his illness. He had all the appearance of one suffering from pneumonia, and some dulness and bronchial breathing were found at the left apex. The history we got was that he was a healthy boy, and went to bed as usual on Friday, and that on Saturday morning he was not able to raise his head with headache, back and front, and had vomiting and shivering. When admitted on Sunday, the second day of illness, he had a very extensive eruption of labial herpes extending up to the ala nasi. There was great retraction of the head. The pupils were dilated, and accommodated well and equally to light. He was somewhat deaf, but quite intelligent. On attempting to sit up he became white and faint. Complained of pains in his legs. There was no paralysis, but well-marked hyperæsthesia. No pain could be elicited by deep pressure along the back of the neck, and though the head was kept strongly retracted the neck muscles did not appear to be in spasm, but rather relaxed. Physical examination of the chest after two or three days gave negative results, but the temperature did not show any crisis of pneumonia. After a short time he became delirious every night, though quite sensible in the morning. He answered questions intelligently, though it was noticed there was a long interval between question and answer, and the deafness had increased. Up to the 22nd day he appeared to be no worse, but if anything improving, when he rapidly became unconscious and appeared to be dying. He rallied, however, towards morning, and improved again, becoming conscious after a couple of days. He vomited occasionally, had the head still strongly retracted, the legs drawn up, and Kernig's sign of meningitis well marked. On the 29th day he again became worse, soon was collapsed, unconscious and apparently dying, but again rallied. About this time a peculiar eruption appeared. It was thickly scattered about the whole of both legs, particularly on the extensor and outer aspects. It consisted of small pustules varying in size from a pin's head to a large hemp seed, and each one contained blood as well as pus, so that the whole had a very dark petechial appearance. They had a considerable thickness of cuticle over them, so that few ruptured and none ulcerated. They gradually dried up, leaving black scabs, which remained a long time before falling off. The temperature throughout ran a very erratic course, varying from 104° to 97° F., there being often $4\frac{1}{2}$ degrees between morning and evening temperatures. The pulse also seldom rose above 100, thus bearing

little or no relation to temperature; even when at his worst it was only 72, though when apparently not worse than usual it was 144.

Decided improvement appeared to set in about the 30th day of his illness, and slowly continued, so that he left hospital after about $2\frac{1}{2}$ months, well. The retraction gradually disappeared, though Kernig's sign was for a long time well marked.

He continued somewhat deaf, though less so than he was. There was a slight discharge from one ear only. He became bright and intelligent, and lay reading a book on the 47th day of his illness, but he was extremely weak and emaciated.

I did not do lumbar puncture in this case, as I did not care to do so at the time in a conscious patient, and his unconscious condition was so sudden and unexpected that I was unprepared, and there seemed every prospect of further opportunity, which, however, fortunately for him, did not occur.

The case is interesting in the early and persistent retraction of the head, the herpes, the unexpected and almost fatal relapses, the early condition resembling pneumonia, the peculiar rash, the deafness, and finally the progress towards recovery.

Case III.—The third case was a man, J. O'T., aged 48, a gardener, admitted to Cork-street Fever Hospital, 2nd March, 1900, being 9th day of his illness. The history we got was that he was a steady, temperate man. As to his illness, we could only learn that he had been ill over a week, had had shivering, pains in general, and cough. He had never had otorrhœa; had had rheumatic fever When admitted on the 10th day he appeared to be unconscious, but on asking a question in a loud voice he turned his eyes on one in a wandering manner and answered. He said he had no pain, but the frown on his brow and the frequent passing of his hand in a weary manner across his forehead belied this. He was extremely restless, never remaining for 30 seconds in one position, rolling from side to side, moving his legs up and down, or to one side or other, pushing down the clothes, pulling them aside, &c. His extremities were cold and blue, and could not be warmed. His temperature was normal, and pulse also normal, and of fair volume. Examination of heart, lungs, and abdomen yielded nothing abnormal; there was no rash, and no herpes on lips; no septic lesion. He resented examination.

The next day his temperature was 100·5°. He had marked retraction of the head, was still unconscious, with cold extremities,

and restless. There was evident hyperæsthesia. That evening the temperature fell to 97·5°. He was quite unconscious next morning, as he was also the following day, and died mid-day following, the 14th day of illness, the 5th day in hospital. His temperature ran up on the morning of his death from 98·6° the night before to 102·2°, and pulse to 120. There were no convulsions or paralysis.

Leave to make a *post mortem* examination was refused—later it was given, and the brain was hurriedly examined. A thick layer of pus was found on the convexity, particularly along the longitudinal fissure, extending back to the cerebellum and down to the medulla. The cord was not examined, and by a mistake the pus was not kept for further examination, as I had left, hearing there could be no *post mortem*, and consequently left no instructions. There was no sign of tubercle, no sign of middle ear disease, or of abscess.

The case is of interest, in the fact of absence of any striking meningeal symptoms till as late as the 11th day, but then their appearance rendering a diagnosis easy. Absence of herpes and rash. *Post mortem* examination confirming a diagnosis of meningitis.

Case IV.—The fourth case was a man, aged 21, a labourer, admitted to Cork-street Hospital on the 26th February, on the 15th day of his illness. The history was that for a fortnight he had been ill with pains in the head and back and slight cough, and occasionally feverish.

Physical examination of all the organs of the body failed to locate any morbid condition. He had a temperature of 102°, but a quiet pulse of about 80. He complained of persistent pain in head, in the neck, and back. He had some retraction of the head, which in a few days became marked. The pain, though continuous, at times became very bad and unbearable—*e.g.*, on the 27th day he had intense headache; on the 34th day had severe headache and vomiting; on the 49th day he had intense headache, pain in back and limbs, and coldness of extremities; on the 54th day he was crying out with pain in back of head and neck, and also had pain in legs. At no time had he any other nervous or other symptoms except that Kernig's sign was always well marked.

The temperature for the greater part of the time (54 days) has been normal or subnormal, but for the first three days it showed irregular variation from 102° to 99°, on 23rd day it rose to 101°, and remained up for 3 or 4 days. During these periods he always

appeared worse, though the periods of worst pain did not coincide with the high temperature. The pulse throughout showed a marked want of proportion to temperature; it was usually about 70, and never rose above 84.

The case appears to be one of those chronic cases which it would be exceedingly difficult to diagnosticate were it not that there was an epidemic with us. He has not had herpes strabismus, rash nor delirium, nor has he any signs of tuberculosis.

Case V.—The fifth case which appeared in Cork-street Hospital was under the care of my colleague, Dr. Cosgrave, who has kindly allowed me to mention it. A man, E. McC., aged 19½, a labourer, admitted 21st March, on the 4th day of illness. He was quite well till four days before, when he complained of headache and pain in back. Two days later he became delirious. He was admitted in a wildly delirious state on the 5th day, with retracted head, the temperature 102°, pulse 120. No organic disease could be found. The delirium quieted into stupor, and he died on the 6th day. No *post mortem* could be obtained.

Case VI.—The sixth case was a young girl, aged 12, admitted Friday, 4th May, had become very ill on the previous Tuesday, 1st May, with great pain in head and back, and was delirious when admitted. Through the succeeding nine days the following symptoms were noted:—Kernig's sign well marked, tenderness of dorsal spine, spasmodic twitchings of arms and legs, extreme hyperextension of great toes, a transitory left external strabismus (on 5th), conjunctivitis of right eye (on 7th), periods of great delirium or irritability with sensibility, great retraction of head and opisthotonos (from 9th). Pulse rate very variable; on one day when taken every few hours it was found to vary from 72 to 120. The pupils variable, unequal, reacting to light, but then dilating even in bright sunlight. She became gradually worse, the temperature had quite an erratic course, and was lower toward the end. Lumbar puncture was performed on the 11th day, but no fluid was obtained, probably owing to the difficulty encountered. She happened then to be semi-conscious and hyperæsthetic, with opisthotonos. The skin, therefore, where the puncture was made, had to be partly frozen, so the puncture was not felt, but the back could not be curved forward, consequently there was little or no room for reaching the canal with the needle. Death occurred on the 13th day, and no *post mortem* could be obtained.

Case VII.—The seventh case was a female child (C.C.), aged 9. She was admitted on May 12th, having been perfectly well till the day before, when she vomited, complained of bad headache, and resented being touched on any part of the body.

After admission she rapidly became worse, with great hyperæsthesia, extreme opisthotonos, and delirium. A large herpetic rash appeared on the lips, and a similar one on the back of the left hand.

She died on the 5th day of her illness. *Post mortem* examination showed a large quantity of pus and cloudy cerebro-spinal fluid about the meninges of brain and cord. A specimen was taken for microscopic examination, but met with an accident, and no more could be obtained.

Case VIII.—The eighth case, a female child, aged 8, was admitted also on May 12th, and had a similar history of sudden onset. The symptoms, though not so acute, are very typical. Extreme retraction of the head, opisthotonos, great irritability and hyperæsthesia, sudden cries, periods of unconsciousness, and periods of delirium. She is still living, but the prognosis is quite uncertain. Owing to the opisthotonos and irritability lumbar puncture has not been performed.

Another case of meningitis, which proved to be not of the epidemic form, has been referred to, and is so important that it must be mentioned in some brief detail.

Case.—A man, aged 50, was admitted with pneumonia. He had his crisis, and was up and about for a week, when on 22nd day he complained of great headache, rapidly developed symptoms of acute meningitis, and died on the fourth day. I looked on the case as probably one of cerebro-spinal meningitis. A *post mortem* was made, and a large quantity of pus was found on brain, and also a large vegetation on the ventricular aspect of the aortic valve. This and the pus, with part of brain, I gave to Dr. O'Sullivan, as probably a case of cerebro-spinal meningitis, without making any mention of preceding pneumonia. He reported the presence of pneumococcus only, in great abundance, both in the pus and in the aortic vegetation.

The points of extreme interest are:—(1) Pneumococcic infection of aortic valve, followed by pneumococcic meningitis 13 days after crisis; (2) absolute diagnosis of pneumococcic meningitis rather than cerebro-spinal meningitis by a pathologist unaware of history of pneumonia, and looking

for cerebro-spinal meningitis; (3) the extremely acute onset and course with unmistakable meningeal symptoms, making the diagnosis impossible without the aid of microscopic and bacteriological investigation.

The temperature charts of the above cases have not been brought forward, as they present no features of diagnostic interest, being quite erratic and bearing no resemblance to one another in any other particular.

Dr. O'Sullivan having kindly undertaken the pathology of the cases, with several others that he has met with, I left it entirely to him to speak on that subject.

SOME RECENT LITERATURE.

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2. Wentworth. "Lancet," Oct., 1898.
3. Councilman, Mallory, and Wright. Report of the State Board of Health of Massachusetts. Boston, 1898. (The most useful monograph on the subject I have met with.)
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5. Buchanan. "Dublin Journal Medical Science," Feb., 1899.
6. Osler. Cavendish Lecture. "Brit. Med. Jour.," June, 1839.
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8. Netter. Twentieth Century Practice of Medicine.

ART. II.—*Epidemic Cerebro-Spinal Meningitis in Dublin.*[a]

By ALFRED R. PARSONS, M.D. Dub., F.R.C.P.I., Physician to the Royal City of Dublin Hospital, and to the National Hospital for Consumption, Ireland; and H. E. LITTLEDALE, M.B. Dub., Assistant to the Lecturer on Pathology, Trinity College, Dublin.

IRELAND has been free from cerebro-spinal meningitis in its epidemic form since 1886. The present outbreak commenced in the earlier months of this year, and I shall briefly refer in chronological order to the clinical records of the cases which have come under my observation at the Royal City of Dublin Hospital.

CASE I.—E. D., aged twenty-eight, a servant, was admitted to the ophthalmic ward on January 31st, complaining of seeing double. She was in good health till January 5th, when she had a

[a] Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, May 18th, 1900. [For the discussion on this paper see page 65.]

shivering fit, followed by severe pain in the back of the head and vomiting. Her temper became irritable and uncertain. On January 23rd, as she developed diplopia, Dr. Flood, under whose care she was, asked Mr. Benson to see her. He found that in the right eye the vision was $\frac{5}{12}$, while in the left eye it was nearly normal. In both eyes there was optic neuritis, of a very intense character in the right, with œdema of the disc and retina, a large patch of white exudation above the disc, and a great tortuosity and enlargement of the veins. There were no hæmorrhages in the retina. She was removed to the City of Dublin Hospital. I examined her carefully, but failed to find any symptoms or signs beyond those enumerated—headache, chiefly in back of head, vomiting, diplopia, slight strabismus, and intense optic neuritis. The temperature, Dr. Flood informed me, was never higher than normal, and the pulse, always quiet, about 80. While in the hospital all the symptoms gradually subsided, the diplopia disappearing about February 12th. She left on February 23rd, feeling nearly quite well, and with her sight greatly improved. After a rest she resumed work, and now feels in excellent health. She remembers very little of the earlier weeks of her illness.

On March 19th her eyes were again examined by Mr. Benson. She said she was perfectly well, but that she could not use her eyes for long without feeling them fatigued. There was a very slight haziness of both discs, most marked on the right. No exudation was visible in the retina above the disc where the large white patch existed on a former occasion. At no time was there albumen or sugar in the urine.

I was unable to arrive at any positive diagnosis in this case while she was in the hospital. The symptoms were, I thought, more suggestive of meningitis than of any other intracranial disease, but the complete recovery of the patient differed from any form of meningitis I had met. In the light of the subsequent cases there is little doubt, I think, that it was a mild attack of cerebro-spinal meningitis.

Case. II.—D. S., aged seven, residing in Booterstown, was also sent in by Dr. Flood. He was admitted on February 14th, a fortnight after the previous case. On Saturday, February 10th, he complained of a slight headache, and his stomach seemed out of order, but he did not vomit. On February 11th headache was much worse, but his mother did not think him sufficiently ill to be sent to bed. On February 12th, at 6 a.m., he began to rave, and

he was unconscious by 7 a.m., when he was seen by Dr. Flood. Later during that day he regained consciousness, and complained of seeing double, and then his mother noticed that he had a squint.

Previous History.—He was in the Children's Hospital in Harcourt-street two years ago, and is said to have been operated on for morbus coxæ. In his family there is no indication of any tendency to tuberculosis.

On admission there were retraction of the head and rigidity of the neck muscles to such an extent that it was not possible to flex the head. There was extensive naso-labial herpes. The movements of the chest wall were normal, and there was, perhaps, slight retraction of the abdomen. The spleen was not enlarged, there were no spots, and I could detect nothing abnormal in the chest or abdomen. The temperature varied from 100° to 103° F. during the first week in hospital, and then gradually settled down, falling about 0·2° F. each day till it became normal on March 13th. It remained practically normal till the 22nd, with one exception, when it rose rapidly to 104°, but fell in the course of eighteen hours to 98·4° again. On March 23rd, and every second day till April 6th, the temperature rose some degrees, while on the alternate days it remained subnormal. Briefly, therefore, it may be stated that during the early weeks the course of the temperature was like that of typhoid fever, but during the later it simulated tertian ague. Since April 6th the temperature has been practically normal.

On March 12th Mr. Benson examined his eyes, and found that the right disc was more vascular than the left, the edges everywhere slightly hazy, and the veins a trifle large and dark. The left disc was clear everywhere at the edge except above. There was thus very slight optic neuritis, more marked in the right eye.

On March 13th Kernig's sign was present. Any attempt at extending the limbs made him cry with pain.

On March 15th his temperature ran up to 104°, and he vomited, moaned, and complained of his head, and passed a restless night, but the following day he was as well as usual. He became greatly emaciated during his illness, but since the temperature became normal he has gained flesh. He is now in excellent health, the strabismus has disappeared, and the reflexes, superficial and deep, are quite normal, and he left the hospital May 19th. In this case there was constipation throughout, and the Widal test was negative.

Case III.—G. McS., aged twenty, a checker, was admitted about 9 p.m. on Friday, March 2nd, in an unconscious condition.

Previous History.—I subsequently ascertained from his father and his employer that he was apparently perfectly well till the previous Wednesday morning, when, during his work, he complained of his head and a feeling of sickness. His employer recommended him to go home, to take some hot rum, and go to bed. On Thursday he heard he was better, but on Friday so much worse that Dr. Byrne was sent for, and he recommended his immediate removal to hospital.

Condition on Admission.—He could be roused sufficiently to say that he had very violent pain in his head. He had no herpes, but there was retraction of his head and rigidity of his neck muscles. He had no indication of any pulmonary or abdominal disease, no cardiac hypertrophy, and no increased arterial tension. He had retention of urine and abolition of the knee-jerks.

After History.—On March 3rd, while drawing off the urine in the morning, my resident pupil, Mr. Wilson, was surprised to hear the air whizzing into his bladder as the urine escaped. This rather rare phenomenon is due to the complete paralysis of the bladder. The urine was loaded with lithates, and contained a large amount of albumen. The course of the temperature is shown in the chart. On the night of March 3rd he was comatose, cyanosed, and bathed in perspiration, and he died at 1 15 a.m. on March 4th—twenty-eight hours after admission and about three and a-half days from the commencement of his illness. A *post-mortem* examination was not permitted, and I regret that I did not make a lumbar puncture.

Case IV.—R. M., aged twenty-two, a cook residing in Wellington-road, was admitted on March 2nd, complaining of severe headache and not feeling well.

Previous History.—She had a rigor the previous day at 4 a.m., followed by headache.

Condition on Admission.—When admitted some thirty hours later, at 9 p.m., March 2nd, her temperature was 102° F. She passed a restless night, and during the following day she was vomiting and suffered much from her head.

After History.—On March 5th her headache was still very violent, and she had constant contraction and relaxation of the occipito-frontalis muscle. She had also pain and stiffness down the spine, and very abundant naso-labial herpes. On March 6th diplopia and convergent strabismus were present, and on March 7th retraction of the head and rigidity of the neck muscles. The pupils were slightly unequal, and there was some difficulty in breathing. On March 9th the eyes were examined by Mr.

Benson, who noted "slight œdema of the disc, left most marked, very considerable tortuosity and congestion of the veins, even out to their finer branches; no masses of exudation or hæmorrhages anywhere visible; slight optic neuritis; venous congestion marked."

On March 13th there was complete loss of power in right external rectus. Kernig's sign was present; she had had severe pain in left shoulder for some days past. On March 17th the respiration was superficial, quick and snatchy. There was twitching of the occipito-frontalis, and the alæ nasi were working. The lips and tongue were rather dry, the pulse 102, the heart sounds good. There were stiffness and pain in left shoulder, and pain on pressure over the skin in the lumbar and dorsal regions. There was tremor in the lower extremities, but no loss of control over the bladder or rectum. There was no albumen or sugar in the urine, and no diminution of the chlorides. The temperature, which during the earlier days of her illness was fairly regular, varying from 101° to 103°, became distinctly remittent from March 20th till April 7th, when it became normal, and remained so. In the morning, during this remittent period, she felt perfectly well, but towards 1 or 2 p.m. the temperature commenced to rise, violent headache and vomiting set in, and persisted for some hours till the temperature became normal again. Throughout her illness her pulse rarely exceeded 100, and her respirations averaged 26. Double vision persisted after the temperature became normal, but she gradually regained power over the external rectus, and when leaving the hospital had practically recovered full control.

Case V.—A. B., aged thirteen, was carried into hospital in a very stupid condition about 4 30 p.m. on March 21st. He could give no account of himself. The temperature was 99·2° F., the pulse 88, and the respirations 28. His face was flushed, he was noisy and a little delirious. My resident pupil, Mr. Wilson, did not notice anything else abnormal. Within half an hour after his admission he suddenly became cyanosed, his pulse became weak, and he died at 5 p.m. When I saw the body at 11 p.m. *rigor mortis* was present. There was well-marked *post-mortem* lividity, but no herpes. Dr. Littledale kindly obtained some blood serum tubes, which I inoculated with some fluid removed by lumbar puncture, and he kindly undertook the subsequent examination of them. The fluid I removed was straw-yellow in colour, and almost quite clear. Permission to make a *post-mortem* examination could not be obtained.

Case VI.—M. Q., aged six, was admitted on April 17th.

Previous History.—Her mother stated that on April 14th she began to suffer with headache, vomiting, and loss of sight. She was a little easier on that night, but on April 15th she vomited every time she took a drink, and lay all day on her face, with her head thrown back and her eyes in a fixed stare. She was restless and delirious at night. On April 16th complained of severe pain in the abdomen and back, had a very restless night, as she was vomiting and delirious, and was sent into hospital on April 17th.

Condition on Admission.—There was great retraction of the head, marked opisthotonos, so that if put on her back she rested on the occipital and gluteal regions. She had abundant naso-labial herpes, weakness in both external recti, and double vision. Kernig's sign was not elicited till the limb was nearly fully extended. The knee-jerks were slight, but flexion of lower extremities was marked.

On April 18th there was tenderness on pressure along the spinal column. Kernig's sign was well marked in the left lower extremity. She was more sensible, and was asking for whisky and water to make her warm. The urine contained a trace of albumen, but no sugar. Chlorides were completely absent. She had been grinding her teeth a great deal.

On April 19th there was a very extensive herpetic eruption over the upper and lower lips.

On April 20th the albumen had disappeared, and chlorides were present in the urine.

On April 26th she cried bitterly, complaining of pains all through her. The fundus of the right eye was examined, and it was found that the outline of the disc was almost invisible, and that the vessels were injected. Since admission she had frequently at night wakened up with a sudden shrill scream, at first "Oh, ma, ma." but subsequently it approached in its suddenness to a siren. During the next twelve days she suffered considerably from headache, pains in her back and extremities.

On May 8th large coarse involuntary movements occurred in the left arm and leg, while the right arm and leg were rigid, and the latter extended. During the day she had fits of screaming. At 11 30 p.m. she was unconscious, but the conjunctival reflex was present, and the pupils contracted on exposure to light. She was very restless during the night, continued screaming till 2 20 a.m., when she went to sleep and slept for two hours. At 4 30 a.m. she took ʒv. of milk, and then passed apparently into a heavy sleep, and remained in that condition almost from that date to May

18th. The conjunctival reflex was generally absent. The pupils contracted on exposure to light. The teeth were firmly clenched, and a little milk introduced oozed out again. Not a particle of nourishment had been swallowed for the previous ten days. If the skin were tightly pinched she moaned a little and moved to a very small extent. Some foul-smelling fluid trickled out of her mouth. The evacuations were passed under her. She had been fed by nutrient enemata during these ten days. Her pulse has increased in frequency from 84 to 120, her respirations continued quiet, and her temperature was generally 101° in the evening and lower in the morning. On the 19th and 20th May she occasionally opened her eyes, but otherwise her condition was practically unchanged. There was well-marked strabismus, and the knee-jerks were absent.

Since the above note was written she remained in a semi-conscious condition, apparently deaf, absolutely unable to swallow, and with partial right hemiplegia. Gradually becoming weaker and more emaciated, she died on June 15th.

Case VII.—T. Q., aged five years, brother of the previous case, was admitted on April 18th. He had been ill for two days before with headache, pain in the back of his neck, and vomiting.

Condition on Admission.—He had marked retraction of the head, and herpes was just appearing on his lower lip. He lay in bed turned three-fourths over on his chest. He showed extreme retraction of head and arching of the back, and the thighs were flexed on his abdomen. The pupils were equal, and their movements apparently normal. Kernig's sign was present. The urine contained neither sugar nor albumen, and chlorides were present.

On April 20th he was almost incessantly screaming. There was extreme retraction of the head, so that it formed an acute angle with the back, and the chin was pointing upwards. The thighs were flexed on the abdomen. An ophthalmoscopic examination showed a haziness of the outline of the disc, but no pronounced optic neuritis.

May 17th.—At times he has become pale, cold, collapsed, and looking as if he were dying, and in a few hours' time his colour has been good. His pulse is easily counted, and he is warm. He has not passed for any length of time into the unconscious condition of his sister. The temperature, which has been very irregular, is now, I think, settling down. He is sleeping well at night, and taking nourishment fairly well.

June 15th.—He made an excellent recovery.

I shall now briefly refer to a few points.

Ætiology.—Numerous outbreaks have occurred on the Continent and America, while England has escaped to a remarkable extent. The outbreaks have generally appeared as waves passing over a district, and not returning for years.

Age.—The incidence is chiefly on children and young adults. It rarely occurs after 35.

Season.—It is most common in spring. It has been thought to follow in the wake of cholera and measles, and to be closely connected with pneumonia.

Bacteriology.—Evidence is steadily accumulating that its immediate exciting cause is the Diplococcus meningitidis intracellularis. It has been suggested that this organism may be found in the nasal secretion, and that by this route it probably reaches the brain. I have examined the secretion in two cases; in one there were numerous diplococci, in the other they were very few. I do not think they were the diplococcus intracellularis.

Diagnosis.—The onset is sudden and definite. The patient can fix to the hour the time that he was seized with the headache.

Temperature.—There is no constant type. In some cases it resembles typhoid, in others malaria.

Decubitus.—The patient generally lies on his side with his head retracted, chin pointed, and lower extremities flexed on the abdomen.

Kernig's sign has been present in all the above cases in which I have looked for it. I have tried patients with various other diseases, but never elicited it. I have noticed it as early as the third day, and it has been present even after convalescence has set in, diminishing as the patient got well. I have not been able to elicit a corresponding spasm in the upper extremity, though I looked for it in some of the cases.

Knee-jerk has been diminished or absent; never exaggerated.

Eruptions.—Four of the seven had well-marked naso-labial herpes. In two of the remaining three death occurred almost too soon to allow of the eruption to appear, and one

I did not see till towards the end of the illness. None of the cases had herpetic eruptions in other parts, and none had the purpuric eruptions so common in the 1866-67 epidemic.

Eye.—Most of my cases had strabismus and double vision, always due to the external rectus being involved. In the four who have recovered, full control of the rectus has been regained. I have seen none of the purulent infiltration of the cornea, or of the ophthalmia which so seriously affected sight in 1867. When the fundus was examined there was always some involvement.

Urine.—Albumen was present in two cases, and in one there was complete absence of chlorides for a short time—a point of some interest on account of the connection supposed to exist with pneumonia.

Lumbar Puncture.—Professor Osler speaks very highly of this as a diagnostic agent.

Prognosis.—This depends very much on the epidemic; three of the seven cases died, and one is still in hospital. Dr. Grimshaw considered that children have a better chance than adults; at least many of the children admitted to Cork-street Fever Hospital under his care in the epidemic of 1866-67 recovered, while 80 per cent. of the young constabulary recruits sent to Steevens's Hospital, and also under his care, died.

Treatment.—I have applied ice to the head and evaporating lotions. Trional, bromides, and morphin have been used to relieve restlessness and procure sleep. Calomel has not been administered except as a purgative. The patients, when suffering pain in the trunk or extremities, have often expressed themselves as greatly relieved when rubbed with a chloroform and camphor liniment. If symptoms suggested a cardio-respiratory failure from pressure, I would resort to lumbar puncture with a view to diminishing the pressure by the removal of cerebro-spinal fluid.

Pathological Report by Dr. Littledale.

"Dr. Parsons gave me a syringeful of fluid which he had drawn off *post mortem* from the spinal canal of one of his cases. This fluid was very limpid and only slightly turbid, the turbidity being

due to the presence of a few polymorphonuclear leucocytes in a degenerate condition—that is to say, their cell protoplasm was broken up and they had lost their circular shape. Cover-glass preparations were made from the fluid and stained with carbol fuchsin.

"These cover glasses showed the presence of diplococci composed of two hemispheres, with their flat surfaces in close apposition, so that with an intense stain like carbol fuchsin they may easily be mistaken for a single large coccus. They had no capsules as a rule, but what looked like a capsule was observed in two other cases. They were present in very small numbers, lying either inside the body of the polymorphonuclear leucocyte, or just as often free in the spinal fluid. Their size was very variable, being on an average the size of the gonococcus, but some of them were three or four times as large, while others were much smaller than the gonococcus. They stained feebly even with carbol fuchsin, and were absolutely decolorised by Gram, however long or intensely stained with the anilin-water violet.

Preparations from Lœffler's serum culture two days old showed a central blue granule in some of the cocci when stained with Neisser's acetic-methylene blue and Bismarck brown. No other organisms could be detected in these preparations, which were stained in several different ways.

"When the spinal fluid had been kept at 37° C. for twenty-four hours it showed a considerable increase of the organisms in the fluid. Cultures were made on the following media all under aërobic conditions:—

"1. Lœffler's serum (horse serum, three parts; 2 per cent. glucose broth, one part); 2. Hydrocele fluid glucose broth, inspissated (hydrocele fluid, three parts; 2 per cent. glucose broth, one part); 3. Plain inspissated hydrocele fluid; 4. Horse serum agar; 5. Glycerine agar; 6. Ordinary agar; 7. Ascitic fluid agar; 8. Glucose agar; 9. Ordinary peptone broth; 10. Glucose broth; 11. Glucose formate broth; 12. Litmus milk; 13. Liquid horse serum; 14. Ordinary gelatine; 15. Glycerine gelatine; 16. Wort gelatine.

"Growths appeared on the first six media only and in the same order of intensity.

"*Lœffler's Serum.*—The first cultures were made by simply squirting several drops of the spinal fluid from the syringe on to the sloped surface of Lœffler's serum. These were put into the oven and kept at 37° C., but no sign of growth had appeared at the end of twenty-four hours. However, when examined again at

the end of forty-eight hours, a copious growth was visible all along the line where the drop had run. All the inspissated serum used was perfectly white and opaque. The growth appeared as a glistening confluent streak, quite colourless—that is to say, the same white colour as the medium. Its notable features were the very intense lustre and absolute confluence, no isolated colonies being visible. It was extremely viscid, and could only be removed with difficulty with a platinum needle, pulling out into a long mucus-like thread. When stained it proved to be a pure culture of the same organism as that found in the spinal fluid, agreeing in every way—the variability of size and absolutely negative reaction to Gram. When these cultures on Lœffler's serum have passed through several stages of subculture they lose their viscidity almost entirely, and when such a growth has been several days in the oven it becomes a yellowish colour.

"*Hydrocele Fluid.*—On inspissated hydrocele fluid and Lœffler's serum made with this, the growth was just the same, but more easily visible on the former, owing to the semitranslucency of the medium. There never was any liquefaction of the serum.

"*Glycerine Agar.*—Subcultures on sloped glycerine agar also gave a thick confluent shining growth at the bottom of the streak, tapering off at the top to a few small isolated colonies. These colonies were also of a glistening character, perfectly circular with an opaque centre, spreading out to a thin transparent margin.

"*Agar.*—On agar slopes the first attempts to grow the organism failed, but subsequently successful growths were obtained. It grew very feebly on agar, and even when a large quantity of a growth from Lœffler's serum was smeared over the agar surface, two or three colonies similar to those on the glycerine agar were all that ever appeared.

"*Serum Agar.*—Serum agar plates gave a very luxuriant growth after twenty-four hours at 37° C. The colonies grew both superficially and in the depths of the medium. The surface colonies were precisely like the colonies described on the glycerine agar, and showed a tendency to spread out over the surface with a translucent margin, otherwise they presented nothing characteristic. The deep colonies, however, were very characteristic. They were either round or lanceolate, looking with Leitz Obj. 3 and Oc. 3 as if composed of coarse granules, but the chief feature was the presence of numerous small buds on the parent colony, giving it sometimes a mulberry appearance, at others like barnacles on a stone.

"*Glycerine Agar.*—Glycerine agar plates failed on the first attempt,

and subsequent plates only grew after forty-eight hours at 37° C. The colonies on these latter were precisely the same as those on the serum agar, but were much less numerous.

"*Other Media.*—No growth could be obtained on any of the other media kept at suitable temperatures.

"*Inoculations.*—Inoculations were made subdurally and into the spinal canal of rabbits by injecting a broth emulsion of a growth from Lœffler's serum, but no lesions were found in the only animal that died, nor could the diplococcus be recovered from the seat of inoculation. Intraperitoneal inoculation of a mouse had no effect on the animal.

"Besides this case, I have assisted Dr. O'Sullivan in Trinity College laboratory in investigating some five or six others which gave results precisely the same as the above in every case.

"The same organism was always found and always quite pure, and there can be no doubt that it is the same organism as that described by Weichselbaum, who kindly sent us some cultures for comparison purposes, and more recently by Councilman, Mallory, and Wright, and by Osler.

"Attempts to isolate the organism from the nasal secretion in several cases failed, and examination of stained preparations of the nasal secretion from infected and healthy persons only showed what looked like the diplococcus meningitidis in one of the infected cases. They were hemispherical cocci decolorised by Gram and not lying in the polymorphonuclear leucocytes, and were only found after a long search.

"It seems quite evident that the organism described has no relation to the diplococcus pneumoniæ, but it has a great similarity to the gonococcus in its shape, intracellular arrangement, and its growth on serum agar.

"There is considerable difficulty in keeping this organism alive, but it can be done by transplanting it on Lœffler's serum every three or four days, and keeping it constantly at 37° C. Cultures on Lœffler's serum kept at 37° C. were alive after fourteen days, and grew on transplantation."

ART. III.—*On the Symptoms or Phenomena formerly known as Croup; the diseases which produce them; and the clinical significance of the various allied affections embraced by the term.* By LANGFORD SYMES, F.R.C.P.I., &c.; Physician to the Orthopædic Hospital; Physician to the Convalescent Home, Stillorgan; Additional Examiner Royal College of Physicians, &c.

As a short sequel to the discussion on Mr. Croly's paper of January 26, 1900, I have thought it well to try to sum up if possible the points in which we are in accord.

When sent for to a case of "Croup" we have no idea what lies before us. We picture a child choking from a disease perhaps beyond our control, or possibly it may be but a passing spasm. Between these two extremes an infinite variety exists. They are all called "croup," but the word practically only conveys that respiration is impeded in the larynx. "We should be far better without the word. There is no such disease as croup, the word merely expresses a single symptom,"[a] just as the terms dropsy, coma, or convulsions. It is well, however, for us to clearly know what it means, what is the clinical condition, and to mark some limitation for the term.

The following group of symptoms seem to me to be embraced by the term. I give you them, as I gathered them, fresh from the original at the bedside.

CROUPY SYMPTOMS.

1st. *Laryngeal Stridor.*—A dry, croupy, tracheal wheeze heard at the bedside; while sleeping a stridulous wheeze persists. This merely indicates difficulty of breathing from some impediment or narrowing, preventing the air passing freely. The lungs are clear; the throat is clear to view, or perhaps slightly, if anything, reddened, certainly not swollen.

2nd. *Cough with a barking "croupy" sound.*—The fit consisting of inspiratory dyspnœa with a couple of croupy barks suddenly following. Sometimes in the middle of a fit of coughing the child gives a loud whoop as in whooping cough, chiefly heard in convalescence.

[a] Edmund Owen, Surgeon to the Hospital for Sick Children, Great Ormond-street.

3rd. *Night Attacks.*—Worse at night. About eleven o'clock the child begins to get bad attacks, often two or three during the night. It starts up in terror, gasping, wheezing, crouping, and barking very terrifying to witness; hardly any air entering, and in peril of choking. Apparently due to spasms.

4th. *Great Restlessness*, and tossing about; also from impediment to respiration. This is in my experience a grave sign, and in fatal cases where the child does choke most agonising to witness. It is also the first sign by which to estimate improvement.

5th. *Recession of the Chest.*

Through all these the voice may be quite clear, even when stridor is alarming. These are the five symptoms for which we are summoned, and they are popularly called "croup." But to what are they due? They are merely manifestations of actual disease which underlies them. The stridor is caused by narrowing, the cough by irritation or foreign material, the night attacks by spasm, the restlessness by asphyxia, and the recession of the chest by atmospheric pressure from obstruction to the entrance of air. Clearly, then, the acute diseases which produce these morbid changes and croupy symptoms are all embraced by the term.

Their diagnosis is always difficult, sometimes impossible. Roughly speaking, and from a clinical standpoint, they seem to possess two main characteristics: in one group specific or inflammatory disease exists in the larynx (*e.g.*, diphtheria and laryngitis), while in the other the obstruction is mainly due to spasm. They are as difficult to separate on paper as they are at the bedside, for the spasmodic cases are sometimes fatal, while the laryngitis group are seldom devoid of spasm. We may have every variety, from raging diphtheria on the one hand, to a trivial laryngismus on the other; and as this latter disease is often confounded with the rest it must be mentioned, though really an entirely different condition.

I propose to briefly treat of three main species:—

I. Diphtheria,
II. Laryngitis, and
III. Laryngismus.

I.—*Diphtheria* (*Diphtheritic Laryngitis—Laryngeal Diphtheria—Membranous Laryngitis—Diphtheritic Croup—Membranous Croup—True Croup—Secondary Croup* of Dr. Stokes—*Cynanche Membranacea—Cynanche Maligna*).

There can be no doubt but that true croup, diphtheria, and membranous laryngitis are forms of the same disease, produced by the reception and cultivation in the body of poisonous germs. Croup is the disease when diagnosticated by the ear, diphtheria when diagnosticated by the eye, and deaths registered as croup are, I believe, mainly due to diphtheria; but croupy symptoms are not necessarily always due to this disease. In 1879 the Scientific Committee of the Royal Medico-Chirurgical Society affirmed the diphtherial identity of membranous croup. Some[a] dissent from this, and state that 14 or 15 per cent. of membranous croup are non-diphtherial, on the ground that some cases reveal diplococci and others similarly affected in the same house are also coccal. Therefore, he argues, some membranous croups cannot be strictly diphtherial or notifiable. Doubtless it is held that membranous exudation in the windpipe may be produced by mechanical and chemical irritants, and there is some evidence that membranous laryngitis has followed exposure to cold. But I hold that there is also evidence that there are several varieties of the disease we now call diphtheria; some of a fœtid purulent nature, and the absence of Klebs-Lœffler bacillus must not be regarded as proof that an angina is not diphtheritic. Experiments in the laboratory may give results which clinical observation entirely fails to endorse. In the present state of our knowledge it is not wise to take up a dogmatic position except to view every case of laryngitis with the greatest suspicion, as it may turn out to be diphtheria. But I agree with Mr. Edmund Owen that the more I see of sore throats with laryngeal obstruction the more firmly do I believe that they are all diphtheritic. Again, I feel in accord with the conclusion of Sydney Martin, Sims Woodhead, and Sir Richard Thorne Thorne (1892) that "there is no evidence at present that there is any disease other than diphtheria which can produce a false membrane

[a] *E.g.*, Mr. Lennox Browne, F.R.C.S.

in the larynx." Recollect that diphtheria may be entirely confined to the larynx, to the trachea, or even the bronchial tubes without being visible.

When confronted with a case presenting the urgent croupy symptoms I have described the points which may stamp it as diphtheria are the following :—

1. *Gradual Onset.*—The croup is preceded by fever. The child is sneezing or sickish for perhaps three whole days with an unaccountable feverish attack. It commences quietly and grows steadily worse. There is a slowly rising acute febrile period before the larynx is affected, developing croupy stridor about the fourth day. It is a microbic or miasmatic poison saturating the system and showing itself in the larynx, rising gradually to a perilous and alarming crisis about the fourth or fifth night when the child is in danger of choking.
2. The *Cervical glands* may be enlarged, hard, and painful.
3. *Enlarged area of cardiac dulness.*—I have found the heart somewhat dilated, being dull to the third rib, one finger's breadth outside the left nipple and mid-sternum. This dilatation of the heart is not constant in the commencement, and may then be found at one hour and not at another hour during the same day. I have found it well established by the ninth day.
4. It may be traced to *vegetable decomposition*, to foul drains, sewers, or manure heaps, which cause an initial sore throat, or perhaps direct infection. I have traced some cases to vegetable decomposition.
5. *Albumen* in the urine and severe illness of the child point very decidedly to diphtheria.
6. The possible discovery of *membrane* in the pharynx and bacteriological confirmation at once settle the question.
7. The protracted illness and slow recovery indicate diphtheria, as also a fatal ending.
8. Communication to or from others can only be diphtherial.

There is sometimes a *septicæmic rash* in diphtheria on the chest and abdomen, and the *knee-jerks* are occasionally absent, while the continuance of a low temperature with grave illness and croupy symptoms point to its diphtheritic nature.

II.—*Laryngitis.*—Two forms of laryngitis especially concern us:—(1) Acute laryngitis, and (2) Laryngitis stridulosa.

1. *Acute Laryngitis* (*Catarrhal Laryngitis—Acute Non-membranous Laryngitis—Simple Laryngitis*).

The swelling and œdema which block the way in acute laryngitis may sometimes produce croupy symptoms, and may present every variety from hoarseness and stridulous breathing to fatal œdema of the glottis.

The distinguishing features here are :—Hoarseness of voice, the respiration has a more hissing sound, no enlarged glands, more rapid onset, no albuminuria, no special night attacks. It chiefly follows colds or chills, or succeeds to measles or whooping-cough. No alteration of the knee-jerks. No dilatation of the heart. No infection. It is hard to make a certain diagnosis, for these peculiarities may happen with diphtheria, and hence it is wise to suspect diphtheria in every case of croup.

2. *Laryngitis Stridulosa* (*Catarrhal Spasm—False Croup—Pseudo-Croup—Spasmodic Croup—Spasmodic Laryngitis—Primary Croup* of Dr. Stokes).

This is the disease which most closely simulates diphtheria. It is a spasmodic narrowing of the windpipe—a catarrhal spasm, having much spasm with a little catarrh. It occurs in children over three years of age, and when we are told that "my child is very subject to croup," this is the disease in question. It produces all the above "croupy symptoms," and may be of great urgency. Dr. Stokes describes fatal cases, where at the *post mortem* examination the larynx was not obstructed, showing death was due to spasm. It is distinguished from diphtheria by the following special features:—

1. *Very Sudden Onset.*—The child goes to bed quite well, and suddenly wakes up in the night with alarming laryngeal obstruction, great distress and dyspnœa; death seems imminent, and advice is hastily summoned. The suddenness of the stridulous breathing is remarkable.
2. *Occurs at Night.*—It is very bad for some hours, and then subsides.
3. *Recurrent.*—We are often told "my child is very subject to croup," or the mother or nurse will state that the child has very often had it before.

4. *A Family Affection.*—Some of the other children of the family often suffer from it.
5. *Quick Recovery* is the rule, and it is rarely fatal.
6. It often occurs in children with *enlarged tonsils*, or *adenoids*.

In one of my cases five children of the same family had it frequently for some years, and they were all affected with adenoids.

7. It occurs in children over three years of age (*cf.* Laryngismus), and ceases when the child is 14 or 15 years old.
8. Vomiting often gives relief.

With chronic laryngitis (syphilitic or tubercular), foreign bodies, warty growths, or stricture of the trachea, we have nothing to do at present.

III.—Lastly, *Laryngismus* (*Child Crowing—Spasm of the Larynx—Laryngeal Asthma—Spasm of the Glottis—Laryngismus Stridulus*).

This is an entirely different condition, and should not be included in the term, for it does not produce croupy symptoms. A convulsive disorder of young infants, unattended by cough. A pure neurosis, or spasm, occurring almost exclusively in rickety infants about 18 months old, with large fontanelles and delayed dentition, and often accompanied by tetany contractions of the thumbs and toes. A spasmodic affection of the larynx, causing sudden arrest of breathing, or "holding of the breath" for a few seconds in the position of expiration, followed by a "crowing" inspiration when the glottis opens and air rushes in with a stridor. It is very rare before six months or after three years. There is no fever. It occurs suddenly while the child is running about, or in the night, with no warning. There is no hoarseness, and the child is perfectly well in the intervals. The fit is started by some emotion, annoyance, fright, crying, or perhaps the irritation of adenoids or teething. It varies from a slight crowing sound to extremely dangerous fits of dyspnœa and cyanosis, with the hands clenched, the limbs stiff, the veins turgid, and the face blue, or even convulsions. It is mostly recovered from, but there is danger of the spasm being fatal. The epiglottis is shut down over the larynx. The attacks are frequent, sometimes 4, 6, 8, 10, or even 20

in a day. Many cases have the "crow," but the worst cases are the silent ones, from the complete strangulation.

Three varieties of the spasm are known :—

1. *Rachitic*, occurring as described above in rickets, similarly to facial irritability, tetany, or fits. This is also called "direct" spasm, signifying its direct connection with the brain, the irritation coming directly from it. A pure spasm of the muscles. No fever, coryza, or laryngeal catarrh. No cough. It is occasionally fatal, and is sometimes a cause of death under chloroform during operations for adenoids.
2. *Congenital* (*Infantile Respiratory Spasm, Congenital Laryngeal Stridor*).—Begins at or shortly after birth, when the child is a few weeks old, with laryngeal or stridulous breathing. A functional neurosis, pathology not yet determined, and recovered from by natural development in the course of the second year, disappearing before 18 months. A valvular formation of the larynx has been observed.
3. *Reflex* spasm, *i.e.*, dyspnœa from enlarged bronchial or mediastinal glands. Sudden death has occurred from spasm of the glottis in cases of tuberculosis, with enlarged and caseous bronchial or mediastinal glands.[a]

The diseases, therefore, which confront us in the cases of croupy symptoms are chiefly two :—*Laryngitis Stridulosa* and *Diphtheria*, the remaining forms being more easily differentiated.

Their management is as varied as their severity. The laryngismus of infants is cured by fresh air at the seaside, cold salt douches, meat juice, and remedies which control the nervous instability of the underlying rickets or tuberculosis. No attempt at hot rooms or steam should be permitted.

In *Laryngitis* the points to be relieved are swelling of the

[a] Dr Ashby cites two cases :—

(*a*) A child aged one year and eight months died from croupy symptoms, in spite of tracheotomy. The *post mortem* examination showed an enlarged thymus gland filled with a tubercular abcsess, and a cheesy adherent lymphatic gland was found pressing on the trachea down to its bifurcation.

(*b*) A boy aged three years, who was affected with croupy symptoms and choking during meals, died. The *post mortem* revealed enlarged mediastinal glands, and an abscess pressing on the œsophagus and trachea, from Potts' disease of the seventh cervical and third upper dorsal vertebræ.

mucous membrane and spasm. The first may be eased by a purgative dose of calomel, leeches to the throat, bleeding, ipecacuanha, and especially antimony. In a doubtful case, where the disease was violent last year, I saw great benefit follow the exhibition of gr. $\frac{1}{48}$th of apomorphia with each dose of antimony.

Spasm can be relieved by hot sponges, steam, and it is possible that phenacetin or antipyrin carefully given may be useful.

In suspected cases of *Diphtheria* (and there is always suspicion), antitoxin should be given at the earliest sign of laryngeal mischief (2,000 units for a child two years old, or 1,500 every morning for four days). This is our sheet anchor. It has also allowed cases to tide over the crisis with intubation, which formerly died.

Should these or other measures fail, and the child be in danger of choking, the question of surgical interference arises.

There still remain intubation and tracheotomy. The surgeon is required only when sufficient air cannot enter, and the child is choking from asphyxia; but the physician has the responsibility of summoning him. What, then, are the signs of approaching asphyxia? Two especially of the foregoing croupy symptoms. They are: (1.) *Recession* of the chest, and (2.) *Restlessness*, and these to my mind form the most correct indications for the further admission of air. These signs should be watched, for in fatal cases the recession increases, the head is thrown back to straighten out the trachea, the restlessness gradually gives place to unconsciousness, and the child dies asphyxiated in convulsions.

Intubation is a delicate and intricate proceeding. I have seen it tide over the crisis successfully where antitoxin had previously been given. Tracheotomy, on the other hand, is the more usual, but its results have not been hitherto encouraging.

Dr. Stokes says:—"On the performance of tracheotomy in this disease I have little to say more than express my decided dissent from it." (Diseases of the Chest, p. 219. 1837.) And almost prophetic is the advice of Mr. William Henry Porter:—"Medical men should rather turn their attention

to the improvement of that internal treatment which will generally be efficacious if resorted to in time, than to look for advantage in the performance of an operation from which experience holds out such slender hopes." (Surgical Pathology of the Larynx and Trachea. Dublin, 1826.)

These quotations are 63 and 74 years old, but until the recent fulfilment of Mr. Porter's prophecy by the introduction of antitoxin, nothing has occurred to warrant the rejection of their conclusions. Now, however, we are entering on a new era in the pathology, prognosis, and treatment of these diseases, and under antitoxin tracheotomy may become more successful.

The following conclusions may, I think, be drawn:—

1. That there is no such true disease as croup, croupy symptoms being produced by a variety of different diseases.

2. That severe croupy symptoms are most likely to be due to either diphtheria or laryngitis stridulosa.

3. That in difficult and doubtful cases we should suspect diphtheria, and treat it as such from the start with antitoxin.

4. That recession and restlessness are the two most dangerous symptoms.

5. That as antitoxin reduces the mortality of diphtheria, and enables cases to be tided over the crisis by intubation, it may possibly contribute to the future success of tracheotomy.

6. That the deaths registered as croup are mainly due to diphtheria.

CHANCRE OF THE LIP IN A CHILD SEVEN MONTHS OLD.

L. Duncan Bulkley says that while extragenital chancres innocently acquired are not so very rare, instances of their occurrence at the early age of seven months are seldom seen, this being the youngest subject in whom he has seen it among nearly two hundred cases of extragenital chancre coming under his observation. Careful questioning of the mother failed to reveal any source of the infection. The parents, however, were from Finland, where syphilis is very common, and the child was bottle-fed. It is more than probable, therefore, the writer thinks, that some friend, while caring for the child, infected the nipple of the bottle when testing the food.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

RECENT WORKS ON PHYSIOLOGY.

1. *A Text-book of Physiology.* By WINFIELD S. HALL, Ph.D., M.D.; Professor of Physiology, North Western University Medical School, Chicago. Illustrated with 343 Engravings and 6 Coloured Plates. London: Rebman, Limited. 1900. 8vo. Pp. 671.
2. *Physiology; a Manual for Students and Practitioners.* By HOWARD D. COLLINS, M.D.; and WM. H. ROCKWELL, junior, M.D. Illustrated by 153 Engravings. London: Kimpton. 1900. Pp. 323.
3. *Hand-book of Physiology.* By W. D. HALLIBURTON, M.D., F.R.S.; Professor of Physiology, King's College. Sixteenth Edition, with upwards of six hundred and fifty Illustrations. London: John Murray. 1900. Demy 8vo. Pp. 872.
4. *Lessons in Elementary Physiology.* By THOMAS H. HUXLEY, LL.D., F.R.S. Enlarged and Revised Edition. London: Macmillan. 1900. Pp. 611.
5. *Golden Rules of Physiology.* By J. WALKER HALL, M.B.; and J. ACWORTH MENZIES, M.D. Bristol: John Wright & Co. Pp. 80.

To whatever cause may be due the ignorance of physiology manifested by students in their examinations, and the consequent large number of rejections in this subject, the explanation cannot be sought in the paucity of text-books. Systematic works on physiology, of every kind and degree, have multiplied of recent years. From the encyclopædic works of Hermann, Schäfer, Howell, and Richet, to the modest, semi-popular books of Moore, Shore, and others, every stage is more than amply represented. It would seem as if now every teacher considers it part of his duty

to write a new text-book—a practice for which the necessity, or even justification, appears to us more than doubtful. These considerations have been suggested to us by looking over the works now under notice, where we find good, bad, and indifferent; and by the condition of our book-shelves, crowded as they are with manuals, hand-books, and text-books on physiology, too many of which have completely failed to justify their existence.

1. The handsome volume which stands first on our list is a work of considerable pretensions, and one of the most recent candidates for the favour of students and practitioners. It begins with a history of the development of physiology. The first part deals with the general physiology of the cell, and general muscle and nerve physiology. The second part on special physiology is subdivided under three heads—(*a*) Nutrition. The physiology of the internal relations, including circulation, respiration, digestion, absorption, metabolism, and excretion; (*b*) Moto-sensory Activities. The physiology of the external relations, including the skin, the special senses, and special muscle and nerve physiology; (*c*) Reproduction.

Much attention is given to physical and chemical considerations, but yet we think that neither subject is treated in a way most suitable for a physiological student, while the space devoted to structural organic formulæ, printed in large type, might have been more usefully employed by an expansion of some of the sections whose treatment is quite inadequate. Thus the coagulation of the blood is disposed of in less than three pages, and no account is given of Hammarsten's recent work, or of the numerous questions involved in the changes of coagulability induced by injections of peptone and other substances into the circulation. The functions of the cerebrum are disposed of in a little over five pages, and we could cite many other examples of undue curtailment in dealing with some of the most important subjects.

In speaking of the production of hydrochloric acid in the stomach, the theory that the supposed reaction between calcium chloride and sodium phosphate takes place in the epithelial cells is attributed to Maly instead of to Gamgee,

to whom it is due, and no notice is taken of the recent theory that the acid is produced by decomposition of the chlorides in the contents of the stomach.

The work is handsomely printed, but is, nevertheless, not free from printer's errors. Thus, Zuntz is printed Zunst on page 24 and page 28, lumina is printed lumena on page 309. The drawings are, for the most part, those we are in the habit of seeing in all the text-books, although some have suffered very much in their reproduction. Thus, Waller's beautifully-drawn curves of muscular contraction, reproduced on pages 78 and 79, look as if the artist suffered from paralysis agitans. Indeed the curves throughout the work are very defective; the sphygmograms on page 173 are certainly very different from those got from healthy individuals in this country. In figure 96 the reference letters are omitted, which makes the explanation difficult to follow. The style in which the book is written is painfully wanting in clearness, and on most subjects further explanation would have been desirable. Thus, a more detailed account of the interesting experiments on the movements of the stomach, carried out at Harvard by the Röntgen rays, would have been most acceptable.

The coloured plates comprise two of stained blood-films, both, in our opinion, highly unsuccessful; a plate of blood spectra, copied from Schäfer's text-book; two plates, showing schematically the course of conduction in the brain and cord, both copied from Flatau; and a plate showing the probable position of the cortical centres in the cerebrum. Here we find a centre for word-blindness (!) and a centre for sensation situated between the motor centres for the arm and leg and the parieto-occipital fissure.

On the whole, while we cannot fail to recognise considerable merit in Professor Hall's work, we shall feel surprised if his book meets with much success on this side of the Atlantic.

2. The work of Drs. Collins and Rockwell forms one of Kimpton's series of modern text-books, the series being edited by Dr. Bern B. Gallaudet. It is intended, we are told, "not only to help the student acquire (*sic*) a knowledge of physiology such as will enable him to read with

better understanding the larger works on the subject, but also to give him actually fuller and more accurate information than can be obtained from the various and popular quiz-compends." We regret that we cannot speak favourably of this book. It is neither accurate nor full, and very far from representing the present condition of physiological science. We shall give a few examples in support of what we say. In a table on page 28 we find mucin, keratin, and elastin classed as gelatines, and on the following page inosite is described as a carbo-hydrate. On page 36 is a drawing of hæmin crystals, which should not have been put into any modern work, particularly as good drawings of this substance abound. On page 44 the coagulation of the blood is described, and we are told that fibrinogen cannot undergo conversion to fibrin unless paraglobulin is present. The book proposes to deal with histology, but the histological drawings selected seem to have been chosen by someone who has been asleep for the last thirty years. We would notice the diagram of the villus on page 71, and of the lymphatic gland on page 74, while we are told in the text that "the lymph ganglia consist of a mass of cellular pulp-substance, through which run many open channels, the whole being enclosed in a capsule." On page 86 a most misleading account is given of the nervous mechanism which governs the respiratory movements. It is stated that the composition of the arterial blood going to the medulla oblongata is different during inspiration and expiration, and that expiration is brought about by the excess of oxygen in the blood due to the previous inspiration; the action of the pneumogastric nerves, whose peripheral ends "are *mechanically pinched* by the walls of the air-cells" during expiration, is stated to be of quite secondary importance. The whole subject of apnœa is disposed of in five words—"*Apnœa* is absence of breathing."

On page 97 the parietal cells of the stomach glands are said to be "known as peptic cells," and pepsin is said to be formed by the globular cells of the glands, while hydrochloric acid is formed by the "cortical parietal cells." On page 99 the diffusibility of peptone is said to be of great importance, as doubtless it is, but few physiologists will

admit that "if this property were absent no animal food could be absorbed from the intestines." On page 107 water is said to be absorbed from the stomach. The presence of bile pigments is said to be shown by absorption bands in the spectrum. The description of the different kinds of currents used for stimulating muscles and nerves, as given on page 151, is most inexact and misleading; while the curves drawn on pages 152 and 153 and their explanation are ridiculous.

We could multiply indefinitely examples of errors in this book, but those given will suffice to show that it has completely failed in its aim as stated by the authors in their preface.

3. It is pleasant to turn from such a work to that of Professor Halliburton, for here we meet with a book of which we can speak in the highest terms—but such praise would be superfluous, for the rapid call for a new edition shows that the world has recognised the merits of the work, and does not wait to hear what reviewers have to say. It is only a year since we had the pleasure of calling our readers' attention to the appearance of the fifteenth edition, and now we have to chronicle the advent of the sixteenth edition. Within such a short interval there cannot be much calling for change, particularly in a work of the general accuracy of that before us; but, nevertheless, the author tells us that the present issue is not a mere reprint, but that the matter has, wherever necessary, been brought fully up to date. This will be found to be the case. In our opinion of the middle-sized text-books of physiology there is none superior to that of Halliburton.

4. An elementary work written by a great master of his subject is always interesting reading. Of such works there are few more remarkable examples than Professor Huxley's "Lessons in Elementary Physiology." This admirable little book was published in 1866. The second edition (1868) was reprinted five times; the third edition (1872) was reprinted fourteen times; the fourth edition (1885) was reprinted seven times, the last time in 1896. The present issue is the fifth edition. It is edited by Sir Michael Foster and Dr. Lea, who have successfully accomplished

what they justly recognise as a difficult task—namely, to make those extensive alterations and additions rendered necessary by the advance of science since 1885, and to be at the same time guided, as they tell us, by "a pious feeling which has led us to pursue, as far as possible, the original author's own form of exposition, and, indeed, his own words." Anyone who reads the work will recognise how well the editors have succeeded in their endeavours. As an elementary book on physiology for the general reader, or for those who intend to prosecute the study further, it has scarcely an equal, while there are few teachers who will not find valuable lessons in exposition and illustration in its pages.

5. The last book on our list is of a very different kind, and belongs to the most pernicious class of medical literature—that is, books which are not intended to give the student a rational knowledge of his subject, but to load his memory with tips by which he may deceive a superficial examiner, and thus scrape through a test. We have nothing to say in favour of such books, except that their dimensions (in this case 4 inches $\times$ $2\frac{3}{4}$ $\times$ $\frac{1}{8}$) justify their description of "waistcoat-pocket size"—very convenient for introduction into the examination hall.

Letter-, Word-, and Mind-Blindness. By James Hinshelwood, M.A., M.D. London: Lewis. 1900. Crown 8vo. Pp. 88.

In every act of vision the brain must co-operate with the eye. The mere retinal picture avails nothing unless we can call up the impressions of previous visual acts for comparison. It is only in this way that we can recognise the import of the actual picture. The power of recalling these previous sensory impressions, which we call memory, is shown by clinical facts not to exist as a special faculty or unity, but there are many different, although closely related, memories, as for visual, auditory or tactile impressions. Any one of these may be enfeebled or lost without impairment of the others, and there are numerous instances where one kind of memory is developed quite out of proportion to the others. Clinical

and pathological research has shown that not only are these different memories distinct, but that they are situated in different parts of the brain, so that the region of the cortex in which are stored visual memories is different from that in which the past auditory impressions are laid up, and so on. In the most interesting little work before us Dr. Hinshelwood deals with visual memories, and shows these may be further subdivided as for words, letters, figures, musical notation, &c.; that memory of one of these classes of objects may be lost, while that of the others is maintained, "and that letter-, word-, and mind-blindness, in all the varieties met with, can be intelligibly explained by regarding them as disorders of the visual memory, produced by lesions affecting, more or less completely, a definite area of the cerebral cortex, in which are preserved those past visual impressions, arranged in definite and ordered groups."

The first case recorded is one of complete letter- and word-blindness. A highly-educated and intelligent man, fifty-eight years of age, suddenly lost the power of reading both printed and written characters. He had right homonymous hemianopsia, but otherwise his vision was perfect, as he could read figures printed in the smallest type. He had no difficulty in speaking. He could write fluently to dictation, but could not read what he had written. He had no other mental defect. "To put it briefly, he had lost the visual memory of all the printed and written characters with which he was previously familiar." There was some improvement in the condition of the patient, who began, just like a child, to learn first his letters and then painfully to combine them into words. The hemianopsia persisted.

The primary visual centre is situated in the occipital lobe, in the neighbourhood of the cuneus and calcarine fissure. Each occipital lobe is connected with the eyes so that lesion on one side does not cause blindness of either eye, but loss of sensibility of the corresponding halves of both retinæ, or homonymous hemianopsia. There is a higher visual centre, situated in the supramarginal and angular gyri, which, although existing on both sides, is educated or functional, for such acts as reading, speaking, &c., only on one, almost always the left side. In this higher centre is

situated visual memory. This centre is connected with both occipital centres. If it is destroyed visual memory is lost, although the power of seeing things is unimpaired. Mind-blindness results. If it is separated from one occipital lobe visual memory is not lost, as its connection with the other side persists. But if the lesion separates it from both occipital lobes then mind-blindness is the consequence. Dr. Hinshelwood argues that the centre in the angular gyrus was not destroyed in his case, since the patient was able to recall a distinct mental picture of each letter spoken to him, and could consequently write from dictation, but that there was a lesion, hæmorrhage or softening, separating the left angular gyrus from the occipital lobes, and dividing the optic radiations connecting the left optic tract with the cortex of the left occipital lobe. A very interesting and important case, very similar to his own, is quoted from Dejerine, where such a lesion was found. In this case total agraphia resulted shortly before death, and was explained by a second, recent lesion, found in the left angular and supramarginal gyri.

The next case is one of so-called dyslexia, that is of word-blindness not complete, but coming on after a short time, when the patient attempted to read. He could read a few words, and then, although he continued to see the words distinctly, he lost all memory of their significance and was unable to proceed. In this case there was also loss of the memory of things, so that the patient, a tailor, did his work like a mere beginner and made the most absurd mistakes. His memory for places was also impaired, so that he could not remember where he had placed anything, and he frequently lost his way when in the midst of the most familiar surroundings. The symptoms were attributed to alcohol, and when this was withheld great improvement resulted. It is supposed that the connections between the angular centre and the occipital centres were impaired, so that their conducting power was soon exhausted. The case was not one of absolute mind-blindness, in which the lesion is probably always bilateral, but the loss of the memory for things is thought to indicate an affection of both sides, while the dyslexia was due solely to the imperfect connections with the left angular centre,

reading being a more elaborated act than mere recognition of form and colour.

The next case recorded is one "where the patient, still able to recognise the individual letters of the alphabet, was yet wholly unable to recognise or interpret the words composed of those combinations." The patient, whose symptoms began rather suddenly, died about three months later with complete aphasia and right hemiplegia, probably due to advancing thrombosis of the left Sylvian artery. Several other cases presenting similar symptoms are collected. "They could all read fluently the individual letters printed and written, but could not interpret words composed of those letters. They could read figures both individually and when combined in the most complex manner, and they could write spontaneously and to dictation, but could not interpret the words which they themselves had written, although they could read the individual letters." It is argued that in learning to read we first learn the letters. Then we learn the words as wholes. This is first done by spelling out each word, letter by letter, and thus appealing to our auditory memory, or by silently spelling the letters, and thus appealing to our glosso-kinæsthetic memory. But after a time this laborious method is given up, and the words are recognised without taking account of the letters. It is supposed that in the visual centre the place where the memories of words are stored, although near to, is not identical with that where the memories of the letters are laid up, so that if the former only is injured the patient is like a child who has learned to read letters but not words, and in the author's case the patient could spell out the words appealing to his auditory memories. These cases are styled word- without letter-blindness.

The last series of five cases, one of them observed by the author, are examples of letter- without word-blindness—where the patients, able to read fluently even long and unusual words, were quite unable to recognise the letters of which they are formed. These cases, which Dr. Hinshelwood thinks are not so rare as is supposed, seem to prove that the seat of memory of words must be different from that of letters, and that when we have learned to read "by sight"

we recognise the words as a whole, each word being a picture or idiogram suggesting a particular idea, and that at this stage we are independent of the letters. If the visual memory centre for letters is injured at this stage we can still recognise the words, but if the injury occurs when we are only at the stage of learning to spell out the words as a child does, then lesion of the centre for letter memory would involve loss of power to recognise words. In one of the cases recorded there was embolism of the left Sylvian artery, and at first loss of power of reading either letters, words, or figures. As recovery progressed the patient first gained the power of recognising Arabic numerals, then words, and last of all letters. These cases, as well as others in which there was loss of the power of reading numerals, although the patient could read letters and words, make the views of the author almost conclusive.

Acromegaly. By Dr. Maximilian Sternberg. Translated by F. R. B. Atkinson, M.D., C.M. The New Sydenham Society. 1899. Pp. 138.

In this able and exhaustive monograph, founded on the examinations or histories of 210 cases, there will be found all that is at present known about the mysterious disease of which it treats. After all, this does not amount to much, and the first thing that strikes us in looking through this volume is the small outcome of the enormous mass of writing which has accumulated on the subject of acromegaly since 1886, when it was first described as a morbid entity. At the end of the volume there is a list of papers bearing on the disease extending to upwards of 18 closely printed pages. True, a good deal of this literature is only indirectly related to acromegaly, and much of it is of older date than 1886, but still it affords an appalling example of the cacoethes scribendi with which the human race is at present so sorely afflicted.

Dr. Sternberg's monograph is divided into nine chapters. In the first a good account of the history of acromegaly is given. Prior to Marie's classical paper many cases of the disease were recorded under other names, the earliest of

which is a pictorial record of a giant of the Court of the Elector Palatine, Frederick II., painted in 1553, and preserved in the Ambras-Schloss in the Tyrol. We may remark that neither in this historical survey nor in the bibliographical lists is any mention of Professor D. J. Cunningham's valuable paper, in the Transactions of the Royal Irish Academy, on the skeleton of the Irish giant, Cornelius Magrath.

In the second chapter a short account of the clinical symptoms of acromegaly is given, and is illustrated by three good drawings. The following chapter deals exhaustively with the pathological anatomy. Up to the present we have 47 *post mortem* examinations of unquestionable cases; nevertheless, the pathological anatomy cannot be said to be definitely settled. The alterations in the osseous system are best known, and an exceedingly clear and full account of the changes which have been found in the different bones is given by the author. Many lesions in the other organs have been described, and receive full attention. Of these that which, perhaps, has excited most interest is the alterations in the pituitary body. "The hypophysis, but especially the anterior part, is always diseased in acromegaly." We have so far 28 microscopic examinations, which, however, in consequence of our imperfect knowledge of the normal organ, must be taken with certain reserve. The changes which have been described are—simple hypertrophy; adenoma; softening, with increase of connective tissue, and atrophy of glandular cells; colloid degeneration, giving rise to cystic tumours; sarcoma; glioma; cylindroma. The enlarged organ does not grow equally in all directions; it sometimes extends downwards into the bones of the base of the skull, sometimes laterally into the cavernous sinus, sometimes upwards, so as to make its bed in the excavated base of the brain." The growth is often more marked on one side than the other. It is evident that the pressure symptoms must vary greatly with the size of the tumour and direction in which it grows.

In a supplement to the third chapter a valuable account is given of the development, morphology, and physiology of the pituitary body.

In the fourth chapter a detailed account of the symptoms

is given. The text, which is very full, is illustrated by numerous portraits of patients, drawings of their extremities, and skiagrams.

The development, course, results, types of the disease, and prognosis are the subjects of the fifth chapter. The disease begins in most cases between 20 and 40 years of age, and in nearly 50 per cent. between 20 and 30. Up to 40 the number of men and women attacked is equal; after 40 women are affected much more frequently than men.

Chapter VI. deals with the relationship of acromegaly to other diseases and conditions, as cranium progeneum; myxœdema and cretinism; Basedow's disease; gigantism; diffuse hyperostosis, and diabetes. It has sometimes been asserted that acromegaly and gigantism are identical processes. It is, however, shown that this is not the case. It is not true that all giants have enlargement of the hypophysis, and in many cases acromegaly begins in youth, and yet there is no giant growth. "Acromegaly is a well-defined disease, with perfectly sharply-marked characteristics. Gigantism is an anomaly of development, which, in itself, has nothing to do with disease, but may occur in connection with various illnesses, and certainly with universal dystrophies. Acromegaly is one of these illnesses. The number of persons who simultaneously suffer from acromegaly and are of very large stature, is considerable, both in proportion to the number of acromegalians as to the number of the other giants." About 20 per cent. of acromegalians are over 177 c.m. in height. About 40 per cent. of all giants are also the subjects of acromegaly. "The fact that giants are almost twice as frequently acromegalians as acromegalians are giants, and the fact that in giants all sorts of extensive diseases of the organic systems occur, permits (*sic*) of our adopting the view that giant growth predisposes to the appearance of universal dystrophies, and especially of acromegaly."

In Chapter VII., on ætiology and pathogeny, a cautious adherence is given to the view that acromegaly is a dystrophy dependent on disease of the hypophysis, as myxœdema is a disease of the thyroid, and that we must see "in the cessation of the normal function of the hypophysis the cause of acromegaly."

Diagnosis is the subject of the eighth chapter. This is treated with great fulness of detail. At the conclusion of the chapter a list is given of 31 diseases, which, "through partial appearances," may be mistaken for acromegaly. To anyone in doubt Dr. Sternberg's work will prove invaluable.

The last chapter, on treatment, occupies only two pages. "Since the pathogeny of the disease is not established, we are unacquainted with any prophylactic measures or effectual etiological treatment." Pituitary tabloids are recommended in preference to thyroid treatment as being more harmless.

The translation is, on the whole, good and readable. There are, however, some obscurities and inelegances. Thus, in speaking of the development of the mouth, it is said "the oral diverticulum is only separated from the lumen of the bowel by epi- and hypo-blast. Both these layers are united here to the pharyngeal membrane." It should evidently read "united to form the pharyngeal membrane." The *refracting* media of the eye are spoken of on page 72 as the *refractory* media. On page 32 the calcareous plates often found in the spinal arachnoid are said to consist of "chalk." These and similar instances, however, detract little from a work in the main excellent.

We regret to notice the absence of an index, or even of a table of contents. In the present over-burthened condition of the scientific reader common humanity would suggest that the advantage of a good index should be afforded to him in every volume.

A Manual of Chemistry, Inorganic and Organic, with an Introduction to the Study of Chemistry. By ARTHUR P. LUFF, M.D., F.R.C.P.; Physician to Out-patients in St. Mary's Hospital and Lecturer on Medical Jurisprudence in the Medical School; and F. J. M. PAGE, B. Sc. Lond., F.I.C.; Lecturer on Chemistry and Physics to the London Hospital Medical College, &c. With 40 Engravings. London: Cassell & Co. 1900.

WE welcome with much pleasure this, the fourth, edition of an excellent work on chemistry. Its chief characteristics appear to us to be the clearness with which it is written,

and the care with which everything, especially in the more elementary parts of the book, is explained. We do not know any work of similar size on chemistry which we could with greater confidence recommend to the student.

In the present edition some changes and additions have been made. The metals are discussed in the groups into which they fall in the Newlands and Mendeljeeff classification. Short accounts of the vapour-density apparatus of Victor Meyer, and of Beckmann's method of determining the depression of the freezing point, and their use in fixing molecular weights have been introduced; brief notes have also been given of Fischer's work on the sugars, and on the composition of some of the complex synthetic substances now in use in medicine.

Lectures on the Practice of Medicine. By W. B. CHEADLE, M.D., F.R.C.P.; Senior Physician to St. Mary's Hospital, and Lecturer on Clinical Medicine in St. Mary's Medical School; Consulting Physician to the Hospital for Sick Children, Great Ormond-st. London: Smith, Elder & Co.

DR. CHEADLE has collected together nine occasional lectures which were addressed chiefly to the students of St. Mary's Medical School, and to these he has appended his three Harveian Lectures on the Rheumatism of Childhood, and now presents them to the medical public in the form of a neat little volume. Dr. Cheadle's work in connection with the artificial feeding of infants, and his pioneering efforts in directing attention to infantile scurvy are well known, and entitle any views which he may care to publish to a respectful consideration.

The original design of the lecturer was "to assist the students in the everyday work of their profession, by directing attention to some common errors in medical practice, and by setting forth the importance of certain points in relation to the diagnosis and treatment of disease which are not dealt with in detail in the text-books, are rarely treated adequately in clinical teaching, and which are therefore apt to be neglected or overlooked in actual practice."

"The Use and Abuse of Tonics" is a chapter pregnant with practical hints, for he is not sure "that taking all cases together the harm done by the mistaken use of tonics is not greater than the good effected by their proper employment."

The author has retained a wonderful belief in the efficacy of drugs; at the same time his creed is of a wider and more acceptable nature than that of either those who administer doses totally inadequate to produce any beneficial effect, or the druggers in extraordinary, who jumble together hap-hazard a dozen remedies, one set of which probably neutralises the other, and the whole concoction certainly ruins the patient's digestion.

"The Clinical Uses of Opium" will be read with interest, and in particular the remarks in regard to its beneficial effects in the treatment of infantile diarrhœa, as well as to its services and dangers in cardiac complaints.

The "Prevalent Fallacies in the Diagnosis and Treatment of Certain Minor Disorders of Childhood" include the causes and treatment of "night terrors in children" and the "periodic pyrexia of childhood."

"Chronic Constipation and Dilatation of the Colon" calls forth some wise commendable teaching. The fortunes made by patent pill vendors are sufficient proof that one of the most serious troubles connected with civilised nations is the difficulty of obtaining the necessary alvine evacuations. The author is in favour of simple aperients, and considers that the following lines might serve as a suitable epitaph in certain cases:—

> "If I had had more Epsom Salts
> I shouldn't be lying in these here vaults."

It is but right to say that this is not an attempt on the part of the literary author to flourish into original verse.

"Rickets in its Medical aspects" shows the close connection which exists between this condition and laryngismus stridulus, tetany and general convulsions, which the writer regards as the positive, comparative, and superlative of the convulsive state in children, and which are commonly met with as manifestations of the rickety state.

The author places himself within a large area with a broad outlook in approaching "Some Practical Points in

the Treatment of Diseases of the Lungs and Air Passages." There is no cut and dry prescribing or rule of thumb procedure encouraged. The practitioner is invited "to picture to himself the exact condition, not only of the chief organ affected, but of every other organ lying in the chain of connection which can be affected by the central disturbance, or which can have suffered from the same cause as that which set up disorder there." This lecture is one which might be read with profit by the most accomplished therapeutist.

In "The Forms of Chorea and Their Treatment" there is little information beyond what is to be found in the ordinary text-books, nor need the chapter on "Infantile Scurvy" receive more than a passing notice. The practitioner who is not already acquainted with Dr. Cheadle's work in this direction must be far in the rearguard of modern medicine. Likewise, if there are any physicians who have failed to read the Harveian lectures on "The Rheumatism of Childhood," an opportunity is presented to them in the reproduction which this treatise affords.

A Manual of Medicine. Edited by W. H. ALLCHIN, M.D. Lond.; F.R.C.P., F.R.S. Edin.; Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital; Examiner in Medicine in the University of London, and to the Medical Department of the Royal Navy. Vol. I.—General Diseases. London: Macmillan & Co., Ltd. New York: The Macmillan Company. 1900.

ALTHOUGH it is becoming more apparent every year that of making books there is no end, it is also very true that readers in plenty will ever be found for the best of the new ones. The past year was amazingly prolific in the production of medical works—especially of American origin—and there has been, as is always the case, an abundance of rubbish put into print. Now and then, however, a classic appears, as in the case of Clifford Allbutt's "System of Medicine," to which the student, be he old or young, turns with a thankful heart.

At the same time such a ponderous work as Allbutt's has

the serious drawback that it requires more time for perusal and more money for its purchase than the average practitioner would probably care to spend upon it. These objections have doubtless been realised by the same firm of excellent publishers, which has now, in a comparatively short space of time after the appearance of the larger volume, produced in a smaller but equally elegant form this manual edited by Dr. Allchin, which is both handy and cheap. The first volume is now before us, and four others are promised to follow at a total cost of some thirty shillings. We venture to predict that if the same high standard of excellence in the articles contributed be maintained in the future volumes as the reader has been treated to in the present by Dr. Allchin and his capable lieutenants, the purchasers will grumble at neither the contents nor the price. This volume deals with "General Diseases."

The editor himself has undertaken the chapters on "Diseases excited by Atmospheric Influences," viz.—heat, cold, high and low pressures, and electricity. Dr. Sims Woodhead describes "The Infections," chiefly in regard to the micro-organisms and the general characters of the infective diseases. The articles on sapræmia, septicæmia, and pyæmia are also written by him. Dr. F. F. Caiger is concise and instructive in his chapters on diphtheria, measles, rötheln, scarlet fever, and varicella. It may be noted that he speaks of "Surgical Scarlet Fever" as of a mild but infectious nature. It is obviously true that scarlatina may be contracted by patients who are undergoing surgical treatment, but the sooner the term as quoted above disappears from text-books the better. Such cases are gradually becoming more rare with the advances of asepsis in surgery, and if such nomenclature were to be advocated we might as reasonably speak of typhoidal scarlatina and influenzal scarlatina when scarlatiniform eruptions appear in these diseases.

In the description of the varieties of scarlatina no objection need be raised to the second one, which is truly enough designated the septic form, or scarlatina ulcerosa, but the synonym of anginosa, by which it is probably better known, might have been added with advantage.

Dr. James Cantlie has been afforded an opportunity for displaying his special knowledge in connection with the diseases more particularly met with in tropical countries—cholera, plague, leprosy, dengue, beri-beri, epidemic dropsy, oriental sore, dysentery, malaria, hæmoglobinuric fever, kala-azar are each separately and clearly described by this capable observer.

Dr. Cayley is not particularly exhaustive on either enteric or typhus fever. Dr. Sydney Copeman maintains his reputation in the succinct descriptions of variola and vaccinia to which his name is appended. Dr. Bertrand Dawson attacks successfully the formidable hydra known as influenza.

Dr. R. G. Hebb has been entrusted with the articles on gonorrhœal infection, epidemic cerebro-spinal meningitis, glanders, and foot and mouth disease, while from the pen of Dr. G. F. Still there are very excellent notices of posterior basic and suppurative meningitis. The former may be now fairly accepted as a distinct entity, although there are still some points in the bacteriology of this affection, as well as in that of the epidemic form, which require further time to substantiate.

Dr. J. W. Washbourn is responsible for the brief but carefully written chapters on erysipelas, infective endocarditis, relapsing fever, and Weil's disease.

The reading of the single contribution made to the volume by the late Captain Matthew Louis Hughes, R.A.M.C., on Mediterranean fever, will be read with feelings of much regret that the fatal day at Colenso should have deprived medical science of one who had already proved himself capable of such excellent work.

The succeeding volumes will be looked for with expectant interest, and if the favourable impression created by a perusal of the first one can be retained by the others the manual is certain to find its way to the hands of numerous purchasers.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

On the Use of exclusively Rectal Nourishment. By Dr. Rost, Assistant Surgeon in the Inner Division of the Augusta Hospital (under Medical Supervision of Prof. Dr. Ewald). Translated from the *Berliner klinische Wochenschrift* (No 30., July 24, 1899) by Ninian Falkiner, M.D., F.R.C.P.I.

In the Augusta Hospital, of late years, the exclusively rectal nourishment has for therapeutic purposes been extensively used.

While the introduction of nourishing matter by the rectum has been practised for a long time, and the literature of the last few years has brought out a number of works which have led to the clearing of our ideas on this form of giving nourishment, still it was a long time before the *extensive and exclusive use of it* as it is to be described below could be carried out consistently.

Formerly when a patient was nourished by the rectum, there was *either*, in addition, a small amount of nourishment by the mouth allowed, or at least the drinking of water; *or*, when an exclusively rectal nourishment appeared absolutely necessary, it was only carried on for a short time, but it was never acknowledged as a special cure, or as possessing the properties of a powerfully effective therapeutic. Now it enjoys, in this respect, an increasing estimation, as all authors who made use of it as a *consistently* carried out cure expressed their satisfaction with it. Thus, Riegel advises, in his work on "Stomach Diseases," to begin every cure of "ulcus" with a period of exclusively rectal nourishment, and Gros expresses himself in his "Treatment of Certain Diseases of the Stomach" in exactly the same enthusiastic way about the "cure of absolute rest." In the more recent time, let us only mention Jacob's account of a case of 32 days' duration of stomach-hæmorrhage nourished by the rectum, the works of Strauss, Plantinga, and, above all, the comprehensive treatise of von Leube in the Handbook of the Therapeutics of Nourishment.

Here are to be found discussions on the combination of nourishing clysters, the manner of their application, on the indications pointing to this treatment, and so on.

Each one of these authors has, by the communication of his experiments and results, contributed to the clearing up of the question. I hope to contribute in the same direction by an account of the experiments made in the Augusta Hospital with the rectal nourishment.

Like others we no longer see in the rectal nourishment a mere assistant when the natural channel of nourishment is blocked or faulty. In its consistent practice we have a means which makes it possible to procure for diseased digestive organs during considerable periods complete rest, and consequently also time for cure.

For all patients who are submitted to the cure complete confinement to bed is necessary. In the morning a purgative enema is given, after an hour the first nourishing enema, and in the course of the day two more nourishing enemata. It is absolutely necessary to use a soft "anal" tube of vulcanised India-rubber, through which with a spray, while the patient lies on his side, the nourishing material may be slowly introduced as high as possible, with gentle pressure. The infusions each consist of 200 c.c. milk, 1 yolk of egg, 1 pinch of salt, some meal and red wine, so that the day's amount is about 800 c.c. With exact control of pulse and temperature this treatment is, as a rule, continued for 6 days, occasionally for considerably longer. Then is introduced the graduated diet which is described below.

If we next take a survey of the cases treated with rectal nourishment in late years in the hospital, the first to be considered is ulcer of the stomach and its consequences.

1. *Ulcus with bleeding.*—At first the stomach-rest cure—*i.e.*, the exclusive rectal nourishment without any admission of nourishment or drink by the mouth—was only ordered in those cases of ulcus in which bleeding or the apprehended perforation of an ulcer absolutely necessitated it. We could, as a rule, observe after a few days that the bleeding ceased, that the violent pain and the peritoneal appearance of irritation, which are so frequently forerunners of a perforation, vanished. The feeling of hunger appeared either slight, or was, in consideration of the great relief experienced through the cure, gladly endured. The feeling of thirst could be overcome by rinsing out the mouth, and by the melting of ice pills in the mouth, the water

being rejected. The so often recommended swallowing of pieces of ice to prevent the bursting of the ulcer was altogether disregarded, as we might rightly hope for greater effects from the absolute sparing of the digestive organs. We seldom were in the position of having to use enemata of the physiological solution of common salt, or even salt-water infusions under the skin. But in certain cases we had to use the exclusively rectal nourishment longer than 6 days.

Two of these cases, whose charts show a rest-cure of 4 weeks and 14 days, I shall specially mention.

The first was a man who fell fainting in the street. In the hospital a severe hæmorrhage from an ulcer in the stomach set in. The passing of blood was chiefly through the bowels, which were emptied the first day 10 times. Nevertheless, the abundant hæmorrhage gave way on the second day, ceased altogether only after 3 weeks, and was treated till the end of the 4th week with the nourishing enemata, which worked a cure.

The case formed in this respect an instructive example—that the patient after three days felt severe pain in the bowels after the introduction of enemata which vanished on the ejection of the enemata The pains increased so much in the course of the day that the enemata were repeatedly ejected. In the second last week only two enemata, in the last week only one a day, could be administered, although a greater endurance was procured by the addition of opium to the enemata through opium suppositories, which were given before the enemata. On these pains, which we shall discuss again, von Leube has written in the Leyden handbook.

In this case we were compelled to make use of further means to supply the loss of water caused by the bleeding, as there appeared not only an unbearable thirst, but also a condition of collapse. We introduced by the rectum physiological solution of salt in great quantities—so called thirst-enemata—and saw that these injections—the patient retained up to 3 litres per diem—caused no pain. At the same time there appeared after them such a marked improvement in the condition, that in the last week we only administered one nourishing enemata daily, but from two to three salt-water infusions. Our experience fully agrees, as far as indication or benefit are concerned, with the recommendation, which von Mering has published lately on the subject.

The second patient suffered likewise from a stomach hæmor-

rhage, and was unable to retain nourishing enemata. He was, in consequence of the above-described experience, almost exclusively treated with thirst-enemata. The result was very satisfactory.

The different styptics recommended for these cases—spraying with ice-water, large doses of opium, &c.—which we formerly used, we have of late years left on one side, and have adhered strictly to the principle of treating these patients with a rest-cure, or, when necessary, of handing them over to the surgeon.

We may point out that the selection of those cases in which, on account of bleeding and threatening perforation, a rest-cure is intended, must be a very careful selection. The question of eventual surgical interference must—as need hardly be mentioned—be settled finally before the beginning of the cure, and not be discussed for the first time after an unsuccessful application of the cure.

2. *Ulcus ventriculi simplex* was, in former times, treated in our division according to the well-known rules laid down by v. Leube and v. Ziemssen some years ago, and described again by the former only lately at the 26th Surgical Congress. The favourable experiments which he had made with the rectal nourishment, both as regards their practicability and results, and further, the fact that there are cases of ulcer in which the so-called Leube's cure is unsuccessful or only aims at an immediate result, caused us to consider it desirable to modify the earlier treatment.

Herr Geh. Rath Ewald has substituted hydropathic bandages for the hot poultices, which frequently left on the body of the patient permanent coloration; he gives no Carlsbad water to drink, also no sodium bicarbonate; but he subjects every ulcer patient, as far as he comes under clinical treatment, at once to a six-days' stomach-rest cure. He observed that the bad symptoms vanished in a shorter time than with Leube's cure. Even in obstinately concealed cases the patients became free from bad symptoms on the 3rd day. Narcotics proved unnecessary, an advantage all the more important as morphin—the only one which comes into consideration in treating ulcus ventriculi—not seldom produces severe breaking of the ulcer.

The case of a coachman, treated in the Augusta Hospital, shows among other things how even in severe cases we occasionally have an *immediate* result, in contrast to the other cure. He suffered from a very violent circumscribed pain of pressure ("Druckschmerz") in the pit of the stomach and unceasing vomiting. With absolute rest in bed, pure milk diet and poultices, the patient experienced

not the slightest relief of his symptoms. On account of the unbearable nature of the increasing paroxysms of pain large daily doses of morphin became finally necessary. The vomiting continued and became finally hæmatemesis. Now the patient was subjected to the rest-cure. On the second day the pains disappeared, so that the patient recovered without narcotics, and remained, when, after 6 days, milk was again allowed, free from any uneasiness. Now he has been following his business again for ten months, and imposes on himself very slight limitations in diet. Another patient who, while adhering to the minutest details of the ulcer-cure emphasised so much by v. Leube, experienced not a trace of effect on his sufferings, was treated with large doses of bismuth. Although the patient received several times 15 gr. daily he was not improved either subjectively or objectively, as the examination of a test breakfast showed. On the other hand, in consideration of his years of suffering, an operation was advised; but he is to-day quite cured through the rest-cure.

We have found this treatment in uncomplicated ulcer, in erosions of the mucous membrane of the stomach, and even in irritations which took their rise in ulcer-scars, so prompt in its action that it afforded us useful service where it was a question of differentiating the diagnosis between ulcer and similar complex symptoms resting on a nervous basis, or where indication was needed whether, besides an ulcer, perigastric processes were going on.

If the symptoms proceed from the latter then the long continued cure itself produces no result, and we have been convinced under such circumstances, in the cases which came to either operation or examination, that further complications or extensive perigastric changes were in existence. The conditions are similar in the case of vomiting from nervous causes, and of nervous stomach pains. There is either no improvement at all, or after an improvement in the beginning it appears that after the cessation of the exclusively rectal nourishment, with the beginning of a strictly graduated diet, a return of the symptoms takes place. We must remark that when in this paper we speak of good results, we understand always *cures* which have existed for at least 6 months. For instance, I consider as unsuccessfully treated a lady whose nervous stomach pains after 3 months' freedom from them returned by degrees, though certainly without their former intensity.

3. The effect of the stomach-rest cure on the gastro-succorrhœa

was quite different—when the excessive secretion was brought about by an ulcus ventriculi or by corresponding organic lesions of the mucosa, which showed themselves symptomatically as probable, or by clinical observation of a hæmorrhage as certain, or when it was a genuine case of Reichmann's sickness—*i.e.*, when the gastro-succorrhœa rested on a nervous basis. The ulcus ventriculi reacted always in the above-described way on the treatment, and with its removal the other symptoms also vanished. On the other hand, 3 persons suffering from severe nervous gastro-succorrhœa, and having as much as three (!) litres of gastric juice in a fasting stomach, remained uncured, although the cure was extended to a length of 14 days. Their symptoms continued, and the daily emptying of the fasting stomach showed gastric juice never under half a litre. Improvement, nay cure, was for the first time arrived at by the not-to-be-enough-recommended daily spraying of the stomach with 1 per 1,000 of nitrate of silver solution, of which $\frac{1}{4}$ to $\frac{1}{2}$ a litre was introduced into the fasting stomach, and was brought, by repeatedly lowering and raising the funnel, as extensively as possible into contact with the walls of the stomach, and then emptied again, without any great limitation of diet appearing needful.

4. *Stomach enlargement and atony.*—A brilliant result was obtained by the rectal nourishment in a case of acute stomach-dilatation, which set in in the convalescence from typhus of a man of 17 years of age. Suddenly with this patient, who had been free from fever for 10 days, a very copious vomiting set in. Through the stomach tube, introduced for purposes of spraying, there were evacuated in addition $1\frac{1}{2}$ litres of fluid containing salts and acids mingled with remains of food. The stomach was much distended. A complete denial of nourishment with contemporary rectal nourishment improved very soon the objective condition, and an inflation showed that the stomach, on the fourth day, had recovered its normal size. The vomiting had of course ceased, but the most important point was that the patient recovered from his great prostration without stimulants. The patient, weakened by several weeks of fever, had on the occurrence of the dilatation looked so sunken, and experienced such a severe weakening of heart-power, that at the moment the perforation of a not yet fully healed intestinal abscess and peritonitis was assumed. The immediate subjective relief afforded by the treatment could not be enough praised by our patient.

On the use of nourishing enemata in chronic dilatations and atony, Schlesinger and Boas have written. Also, our experiences were not unfavourable, especially as concerning symptomatic suggestion in these cases. The great thirst—a sign of faulty water-absorption—vanishes after the conclusion of the cure. As was shown by the measurement of the urine, there was constantly more evacuated than before. Before the treatment, remnants from the previous day were to be found in the fasting stomach; after the rest-cure and renewed examination with atonics, it was found that there were no remnants, and in cases of dilatation that the amount of them was considerably reduced.

The stomach had experienced a proportionate improvement in its motility, and, therefore, a strengthening of its muscular power, which showed itself in the most advantageous way in the general health. But it is especially noteworthy that these improvements were no mere passing results of short duration, but that they—we lay the greatest stress on this—continued for months, in atonics even years; of course under the supposition that the patients carried on a suitable mode of life. It can, therefore, only be recommended that in the case of atonics, for which the common methods of treatment—spraying, massage, electricity, &c.—do no real good, a rest-cure should be tried. It procures often, in obstinate cases, such an essential improvement that the other hitherto ineffectual methods again become effectual.

5. Finally, as regards diseases of the bowels, which we sought to influence therapeutically in the same manner, I will only mention that we wrought a cure in two cases of profuse diarrhœa, which were handed over to us (after several weeks special treatment, which had only brought a transitory improvement) under the diagnosis "tuberculosis of the bowels." A spraying out of the stomach, the administration of an aperient, followed by a six days' rest-cure, in which the enemata were retained without difficulty, immediately stopped the diarrhœa. When the graduated diet was introduced, the motions were solid, and also mixed fare was found digestible. When one of these patients returned after a year to the hospital to be treated for another disease he affirmed that the cure had been lasting.

As regards the use of the exclusive rectal nourishment in general, it could *à priori* be objected to it that it is too severe, and weakens the patient too much. What observations have we made on this point?

In many cases we had to deal with persons who were greatly fallen away in condition, but always with those with whom it could be no question of a malignant tumour. If in considering whether a patient is to be submitted to the rectal nourishment or not, we only discuss the question of his strength being equal to it, we should act very wrongly. Our action depends far more on other conditions; for all those cases are absolutely excluded in which there is clear indication that surgical aid will be required. Here valuable time would be lost by waiting, because we can and dare under no circumstances expect that the rectal nourishment will increase the strength of the patient, and thereby give more favourable chances for the success of an operation. This holds, of course, in a special degree in the case of all malignant formations. Sufferers from carcinoma, for example, bear even a passing weakness from intervening sickness much worse, and it is more difficult for them to recover than any other patients. I have often observed that injury of this kind in various ways, even though it ceased after a short time, hastened the death of the patient in an unmistakable way. Such an injury would be caused in carcinoma cases which were capable of operation by insufficient nourishment during a long period, as often occurs, and in any case, if not brought about by the rectal nourishment, is not removed by it. The rectal nourishment is—in the nature of the thing—only a means of assisting the natural nourishment,, and does not even as such take the first place. If it is desirable to improve the patient's condition before an operation for œsophageal cancer, or if the operation has to be put off on account of the general ill-health of the patient, it is most important to administer, with the real nourishing enemata, salt-water enemata, which has been approved by Lindner, as well as by ourselves. The greatest enemy in an impermeable œsophageal cancer is, paradoxical as it may sound, not hunger, but thirst—the loss of water in the tissues, with its consequences, through which many a patient, in spite of operation, succumbs. The diagnosis in these cases is generally given soon enough, but while the patient, and in some cases the surgeon, makes up his mind to the operation, much irrevocable time goes by in half measures; and among these we may count nourishing enemata in these cases, because they—quite apart from their nourishing value—do nothing for the poverty of water in the body, as they contain too little water. But I have never met with a case, among

the many cases of œsophageal cancer which I have seen in the inner division and the policlinic of the Augusta Hospital, which had been treated with salt-water enemata before its reception—*i.e.*, outside the hospital.

What has been said of œsophageal cancer holds also for carcinoma of the intestinal canal—no rectal nourishment as a substitute for natural nourishment, no nourishing enemata as assistants to it, lest the time for energetic action pass by. If the cases are not fit for operation, or such that the operation must be put off, let the same care be taken of the supply of water as of the nourishing enemata. If the application of the latter is painful, let them be immediately abandoned for a time, and afterwards tried again. Their nourishing effect is with carcinoma patients—as *à priori* is to be expected, and as was shown by the measurement of assimilation carried out by us in the intern department of the Augusta Hospital—only a small one, and is, therefore, better done without under such circumstances. But the great suggestive value of the painless administration of the nourishing enemata in some cases, can be seen with patients who, depressed through want of appetite and the consequent diminution in their amount of food, and weakness, become hopeful and confident through the use of enemata.

Whether a phthisical patient, a diabetic, or a severe case of chlorosis with stomach or intestinal troubles, should be put under the rest-cure is a difficult question, which can be decided only by an experienced surgeon versed in all diet cures. In any case it must be presupposed that the general condition will in nowise be unfavourably affected by a rest-cure, and that the troubles arising from the disease of the stomach are so considerable that if allowed to persist they will cause danger to the general condition, or that unless they are relieved no successful treatment of the general condition can be attempted. Remarkable under this head were a considerable number of chlorotic individuals who had symptoms of ulcer, and a small number of phthisical patients with atony of the stomach, with whom all other treatment had failed, and whom we treated with an abstinence cure. We have always found that such patients felt themselves subjectively well, and that they passed through the cure without great weakening, and at its conclusion quickly got into good condition.

Suitably used, this cure produces after quite a short time great subjective relief. Vomiting and singultus cease, the

patient, troubled before by pain, gains without narcotics more rest and sleep than he did before with the aid of opium and morphin. It is clear that by this means alone an improvement and sparing of the heart-power is effected—*i.e.*, exactly the opposite of what was feared. We believe that the slight fits of weakness and severe collapse, when they occur, are caused rather, as said above, by the deficiency of water in the organism than by deficient nourishment. If there is the smallest indication of this kind of weakness, let the nourishing enemata be immediately set aside, and salt solution be introduced, first through the bowel, and, if this is not sufficient, through the skin. On the value of such salt-water infusions to prevent heart-failures we have the expressed approval of Lenhartz in very recent times. An inexperienced person will on account of the lowering of the pulse immediately break off the cure, because he lays everything at the door of insufficient nourishment, and will eventually try stimulants, which can only increase the evil. A one-sided accentuation of the nourishment of a patient who is forbidden nourishment by the mouth has been harmful to many, has brought many a cure to an untimely end, and at least has caused these rest-cures not to be used to the extent that they deserve.

To make up the loss of nourishing matter only two ways are possible—by the rectum or the skin. The inquiries into subcutaneous nourishment have not gone so far as to make it possible to realise them on the sick bed. We are, therefore, in practice thrown back on the rectum alone.

The views on this mode of nourishment have been considerably modified in the course of time, and people have by degrees somewhat receded from the exaggerated views in its favour which were current at the beginning. Von Leube, certainly a competent judge of these questions, speaks to the effect that the amount of heat-producing stuff assimilated in the case of rectal nourishment, even in the most favourable case, when all precautions in the administration of the enemata on the part of surgeon, and also on the part of the patient, were taken, remains considerably in arrear of the minimum quantity. It is a different thing when a surgeon equipped with a full understanding of the method administers the enemata to—if I may so express myself—a trained trial-person, different from a case in a large practice, where assistant hands must be used, and irritable patients with stomach and intestinal affections are the objects.

Up to the present, examinations of assimilation have constantly been made in cases of the first kind, and we have arrived at results which must be better than those to be obtained in practice. I have at the instigation of my chief, Herr Geh. Ewald, measured the assimilation of nitrogen in the patients of the hospital, to whom nourishing enemata had been given with therapeutic intention by our own staff. On this point information has been given elsewhere. It was found that between 30 to 95 per cent. of the nitrogen introduced was absorbed, so that very varying conditions were present, which plainly were dependent on individual circumstances.

Patients with an irritable intestinal canal, and with such we have generally to deal, can take in the course of a six days' cure only three nourishing enemata per day. We gave, of course, besides this in the morning, one hour before the first nourishing enema, a purgative enema. We have not approved Leube's prescription to give a purgative enema before every nourishing enema. Apart from the fact that by this means there is not sufficient time allowed for the assimilation of the nourishment, there is also this fact that six enemata in the twenty-four hours (in reality twelve hours) compel us, in spite of opium and other narcotics, to give up or intermit the cure after two or three days. Anyone who, according to the advice of another, increases the number of nourishing enemata above three, ought to convince himself of the practical advantage of his treatment by measurement of the food-assimilation. I have for the last three years practised a measurement of this kind, and have found that the maximum of assimilation is obtained when *three* nourishing enemata are used. If too many purgative enemata are given, the intestine is so irritated that it will retain nothing, and thus makes the whole nourishing illusive. Further, I have examined whether the materials of the enemata are better assimilated when they are introduced into the higher parts of the intestine by means of a long tube, or when they are sprayed by means of a spray with a short tube affixed. The use of the long tube produced very frequently a painful irritation of the bowel, which brought the enemata to an untimely interruption. Slight pains of a diffuse character always showed themselves, even with the use of the spray, generally about the fourth or fifth day. Very violent pains, which, according to Leube, are caused by secondary inflammation of the bowels, compel us unconditionally to abandon the nourishing enemata.

On this occasion we undertook an examination of Grützner's well-known opinion of the still further reaching introduction of nourishment into the stomach. We administered at first strengthening enemata, afterwards we gave, in a large number of cases, bismuth by the rectum, without obtaining a result agreeing with Grützner's experiments.

Very important for the success of rectal nourishment is the skill of the nurse. The more our nurses practised it the better were the results. At first all enemata were expelled too soon, without being essentially different in their composition from those now introduced. Now they are retained for at least six hours; indeed it not seldom occurs that all three enemata remain in the bowel, and their remains are only evacuated the next day on the operation of the purgative enema. An addition of opium is greatly to be recommended. Finally, according to my experience, the quantity of each injection should not perceptibly exceed 250 cubic cm. Our daily quantity amounted to about 80 cubic cm.

As regards the composition of our nourishing enemata, I should like to distinguish between principal and secondary ingredients. Principal ingredients are yolk of egg and milk. I use only three eggs a day, one for each enema. It appeared, in fact, that a larger quantity of egg irritates the bowel, and endangers the absorption of the enema. Von Leube, who had sometimes the same experience, supposes the reason of this to be that the absorption of eggs sometimes takes place slowly, and that thus the mass of the injection is exposed to the extensive action of septic bacteria.

Milk, which is given in proportionate quantity, offers this advantage, that it contains, in addition to nourishing matter, the very important *water*. I have come to a favourable judgment on the use of milk and white of egg, while von Leube, who points to Brandenburg's experiments, believes that the value of the milk depends less on the addition of the white of egg than on the ease in absorbing a carbo-hydrate. Pancreatic and peptic enemata we never gave. Attempts to perform assimilation by the use of artificial nourishing preparations, like eucasin, gave no favourable result.

As secondary ingredients I took wine, flour, and salt, in spite of von Leube's opinion that carbo-hydrates are almost completely absorbed in the bowel. I used them only in small quantities, in order not to increase the consistency of the

enema. It is found, in fact, that too thick a fluid when injected is much harder to retain than a thinner one, so that we might almost speak of a maximum of consistency.

People will certainly criticise the composition of my enemata for the sparing use of nourishing materials, and mention much stronger mixtures. I oppose to this objection that I only mention here what has been approved after years of experience and trials with enemata of the most varied composition in the Augusta Hospital.

How much we have to count on individual conditions, in spite of the experience I have just described, is shown by an account given elsewhere (17) of a series of experiments, which, with equal tolerance on the part of the patient and similar retention of the enemata, gave very different results with regard to the assimilation of the injected materials.

If the sixth day of exclusive rectal nourishment has passed with the observance of all precautions, and the patient—let us suppose an ulcer patient—has been for two days without symptoms, let the rectal nourishment be abandoned on the seventh day, and for the following week a pure milk diet ordered. At first the milk, which is given cooled, is administered by teaspoonfuls. In twenty-four hours, on the first day, 250 cubic cm. are allowed, on the second day 500, and so on in increasing doses to 1,500 cubic cm. By degrees also the temperature of the drink is regulated by the wish of the patient. He very soon supplies the loss of water endured during the abstinence period, which, in spite of precaution on this point, is always considerable. During the first week the weight of the body increases with a speed which is out of proportion to the still restricted nourishment taken. As certainly there is still a loss of substance in the body during the milk period, this increase in weight must be set down to water-supply, and this supposition is confirmed by the fact that, later on, under much more plenteous diet, the weight increases much more slowly. In the following week purée of potatoes (potatoes mashed carefully) and minced or pounded meat are added.

In the last days light bread. In the fourth and fifth week of the cure the passage to the diet of the next months is completed, which excludes alcoholics, spices and seasonings, and hard, woody vegetables. With patients for ulcer of the stomach or erosions of the mucous membrane of the stomach treated in this way I have never, when the patient acted with care, seen a

relapse occur, and I can, as I am still in communication with the majority of these cases, speak of the healing influence of the rest-cure.

With other stomach or intestinal diseases, of course, the treatment must be modified according to the nature of the disease—for example, in the case of atony the amount of fluid will be decreased, and solid nourishment be given in smaller portions, and so on; but it still remains to make regulations for every detail on this point.

In conclusion, I wish to express to my honoured chief, Herr Geh. Rath Ewald, my heartfelt thanks for the kind interest which he has taken in my work, and for the manifold support which he has given me.

CYSTITIS DUE TO TYPHOID BACILLUS.

Dr. Brown (*Medical Record*) says the patient was submitted to operation on the 20th January. Thirty-five years previously she had had an attack of typhoid fever. Since that time, however, there had been no illness in the least suggesting a re-infection with typhoid. For eight days after the operation the temperature was practically normal, and the convalescence uneventful. On the ninth day the temperature rose to 100·4° F. On the day preceding the rise of temperature the patient complained of pain in the bladder, and the urine was albuminous and purulent. The cystoscope showed an inflamed mucous membrane. Some urine drawn off, with all aseptic precautions, gave typhoid bacilli cultivations, reacting to all the usual bacteriological tests. The cause of the trouble was traced to the use of a catheter which had been used for a typhoid fever patient.

NECROSIS OF THE TESTICLE FROM TORSION.

O. Bardella says the scrotum was contused in three slight traumatisms, and opened on suspicion of hæmatoma. One testicle was found twisted three times on its axis, and necrosed to such an extent as to require ablation. This makes the twentieth observation of torsion of the testicle on record. In some cases the torsion occurred without appreciable traumatism, the mesorchium being very short, or absent altogether. Sasse asserts that the testis should be removed if the torsion is discovered, and reduced before atrophy has commenced. The testis should be held with a stitch or two to prevent a repetition.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Edward H. Bennett, M.D., F.R.C.S.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF MEDICINE.

President—Sir J. W. Moore, M.D. Univ. Dubl., President of the Royal College of Physicians of Ireland.

Sectional Secretary—R. Travers Smith, M.D. Univ. Dubl.

Friday, May 18, 1900.

The President in the Chair.

Cases of Cerebro-Spinal Meningitis.

Dr. H. C. Drury read a paper on "Cases of Epidemic Cerebro-Spinal Meningitis." [It will be found at page 1.]

Dr. Parsons read a paper on "Cerebro-spinal Meningitis," which was discussed with Dr. Drury's. [It will be found at page 12.]

Dr. Falkiner presented a table, showing the number of deaths in the Dublin Registration Area from all forms of meningitis in the years 1895–1900. Taking the years 1895 to 1899 inclusive, the average number of deaths from all forms of meningitis, for the first 19 weeks of each year, was 102·6; but in 1900 the number of deaths in a corresponding period was 182·0, and the increase embraced ordinary meningitis, tubercular meningitis, cerebro-spinal meningitis, hydrocephalus, and secondary meningitis. All forms of meningitis should be treated as zymotic diseases. Sir Charles Cameron had adopted the proper course in making meningitis a notifiable disease. [See Tables on next page.]

The President remarked that that was the first occasion on which meningitis had been made a notifiable disease. He thought Sir Charles Cameron's advice very judicious—namely, to require notification for only four months. He was struck with the coincidence of the outbreak and the arrival in Dublin of the 21st Lancers from Omdurman, where the disease had appeared in severe form lately. However, on inquiry he found that no case of cerebro-spinal meningitis had occurred in the regiment before or since its arrival in

TABLE showing the number of Deaths from "Cerebro-spinal Fever" registered in Ireland in each of the four Provinces during each of the 18 years 1881–1898, as given in the Registrar-General's Annual Reports.

Year	Deaths from Cerebro-spinal Fever				
	Provinces				
	Leinster	Ulster	Munster	Connaught	All Ireland
1881	30	7	11	2	50
1882	21	15	12	3	51
1883	26	14	18	2	60
1884	39	15	20	7	81
1885	95	8	23	7	133
1886	60	13	26	8	107
1887	58	16	30	7	111
1888	29	12	23	13	77
1889	22	9	25	7	63
1890	23	8	19	1	51
1891	46	7	30	11	94
1892	17	6	21	8	52
1893	36	9	23	3	71
1894	21	4	27	4	56
1895	44	5	16	3	68
1896	47	10	16	3	76
1897	48	2	24	2	76
1898	36	15	8	3	62

DUBLIN REGISTRATION AREA.

TABLE showing total Deaths from all forms of Meningitis for first nineteen weeks of each year from 1895–1900, inclusive; also showing difference between total deaths in 1900 and average of total deaths from 1895–99.

Year	Meningitis	Tubercular Meningitis	Cerebro-spinal Meningitis	Hydro-cephalus	Secondary Forms	Total
1895	51	30	3	10	4	98
1896	56	26	2	8	3	95
1897	54	30	7	7	9	107
1898	66	36	2	11	1	116
1899	44	43	2	3	5	97
1900	89	50	17	17	9	182

		Total, 1900	Excess
Average from all forms for 1895–99 ...	102·6	182	79·4
Average from Meningitis	54·2	89	34·8
Average from Tubercular Meningitis ...	33·0	50	17·0
Average from Cerebro-spinal Meningitis ...	3·2	17	13·8
Average from Hydrocephalus	7·8	17	9·2
Average from Secondary Forms	4·4	9	4·6

Dublin. At the Meath Hospital they had had eleven cases, with three deaths, and eight cases still under treatment. This showed that the mortality was not at all so high as in the epidemic of 1867. The first case was a girl aged three, admitted on February 24th; she recovered. The second case was a girl aged sixteen, who came in insensible and died quite suddenly within twenty-four hours of admission. In the third case, which also proved fatal, there were evidences of lepto-meningitis. The appearances brought to his mind those observed in the 1867 epidemic. On April 6th a girl aged eight was admitted, and on the 9th of April her brother was admitted, and they had at present a third child from the same family under observation. Taken with Dr. Parsons' cases, that was most important as affording evidence of the infectiousness of the disease. On April 19th a grocer's assistant, aged twenty-two, was admitted. He is recovering after a very irregular and protracted fever. It was amongst this class of employés that some of the worst cases occurred in 1867. He thought that in adults moaning took the place of the hydrocephalic cry. In cases that recovered the emaciation was very great. He had noticed that albuminuria was very constantly present from the start. As to treatment, in the present epidemic he had found that the most successful measures were leeching behind the ear, and the repeated application of small blisters behind the ear. The agonising headache was relieved by a combination of acetanilide, caffeïn, and sodium bicarbonate. The present epidemic was very remarkable for the decubitus—the most marked opisthotonos being present. The epidemic of meningitis in 1866–1867 followed close on an epidemic of cholera, a fact on which great stress was laid at the time; but the discovery of the *Bacillus intracellularis* had removed the idea of any connection between the two. Both in the present and in the previous outbreaks in Dublin the disease was not confined to the city, but extended to Finglas, Rathmines, Kingstown, and other healthy suburbs.

Dr. Travers Smith said he had had fourteen cases of cerebro-spinal meningitis and two cases of a doubtful nature in the Hardwicke Hospital this year. Five other cases had been under the care of Dr. O'Carroll in the same hospital. The following were the points which would help him to make a diagnosis in future cases:—*Sudden onset*—This occurred for certain in nine of the fourteen cases; in three others no history could be obtained. *Severe pain in the head and vomiting*—The latter symptom present in nine on admission. The headache, which was subject to exacerbations, was more frequently frontal than occipital. *Retrac-*

tion of head and rigidity of neck, which gave pain on any attempt at flexion, was present early in eleven out of the fourteen cases. The *pulse* was slow, even while the *temperature* was rather high, in eight of the cases as early as the first week. *Loss of knee-jerk* was apparent even at time of admission to hospital in twelve of the cases; in one it was diminished, and in one exaggerated. *Conditions of the pupil*—Dilated, somewhat irregular, responding slowly to light in the majority of cases. Four of the cases showed actual changes in the optic disc. *Eruptions*—Eight of the fourteen cases had eruptions early. Those most common were an erythematous eruption and herpes. The erythematous eruption was bright red, with very well-defined edges, felt very hot, and persisted for a good many days. It was most common on the neck, but in one case it appeared on the ankle and in another on the breast and down the arms to the elbow. The herpes appeared most commonly on the lips and neck. In two cases there were bullous eruptions on the feet. In only one case was there an approach to the classical description of purpuric spots. This patient died on the seventeenth day. On the day before death these spots appeared on front of chest, but they were not well marked. He had found the hydrocephalic cry only in children. Later on in the disease a valuable sign was the irregular temperature, following no definite type. Emaciation was very rapid. Despite the fact that they got more food they wasted more rapidly than typhoid patients. Decubitus was also important. The stupor was not, he thought, easily to be mistaken for that seen in other fevers. There was a tendency to intermissions and exacerbations. In all his cases which showed this, a rise in temperature was preceded by headache and vomiting. He agreed with Dr. Parsons that when these exacerbations occurred the temperature rose. In two cases he had seen hyperæsthesia of the skin of the neck. The subjective sensory symptoms were great pains in the back and down the spine, and in the legs as far as the knees. In some cases of rigidity of the neck only the deeper muscles were engaged, the trapezius being quite soft. He had not seen any great arching of the back. Of the fourteen cases nine were females. The duration was variable. One case, not yet quite well, had already lasted 77 days; one proved fatal on the 80th day, and one, which recovered, lasted 73 days. One patient died within a day and a-half. Four of the fourteen cases died; two patients came from the same house. The only sequela was permanent deafness in one case, and this without apparent otitis media. In two cases the patients, although recovered for some weeks, have involuntary micturition at night. The prognosis as regards recovery was

exceedingly difficult. Some of apparently the worst cases recovered, while, on the other hand, two had suddenly become comatose and died within an hour, one on the seventeenth, the other on the second day. All were under twenty years, except in the case of one woman, aged thirty-six, who died. Dr. Travers Smith showed clinical charts illustrating the highly irregular temperature.

Professor Bennett, speaking of the previous epidemic, in which he had seen many cases, chiefly under Sir John Banks, said the diagnosis was easy because of the livid, patchy eruption. Sometimes petechial spots appeared on the first day of illness. The symptoms were very much more severe than in the present epidemic, and the prognosis was horribly bad. The general run of deaths occurred in from 24 to 48 hours from the onset. If a patient were alive after 48 hours he was likely to go on living for a considerable time. Even if a patient recovered he was permanently damaged—he either became blind or suffered from some organic disease. He had seen only one patient who got so well that he might be said to have completely recovered. He lived for many years and obtained a high position, but he had not long occupied it when he died insane. The *post-mortem* appearances were exactly the same as in the present epidemic.

Dr. Knott said that in the 1867 epidemic he was always able to diagnosticate the cases in the hospital wards by the hydrocephalic cry alone. At the *post mortem* he was struck with the peculiar way in which the inflammation seemed to avoid the basilar membrane; the base of the brain was always free. The cervical cord was always intensely inflamed, but in patches, not continuously. In the 1867 epidemic the fatal result usually took place in about three days.

Dr. Craig described the case of a boy, now under treatment, who went to school one morning quite well, and got a severe headache about twelve o'clock. He soon vomited, and became unconscious at six o'clock. He was carried to the Meath Hospital at nine o'clock, and was then sufficiently conscious to know when anyone interfered with him. The most prominent of his symptoms were:—An early development of conjunctivitis of the left eye, which later on extended to the right eye; internal strabismus of left eye; complete loss of conjunctival reflex. The eyes were fixed towards the right side, as might be found in apoplexy or hemiplegia. There was not much retraction of the head, and the limbs were quite straight. The lateral decubitus which was present on admission had disappeared, and he now, three days after, had assumed dorsal decubitus. He had not regained consciousness since admis-

sion, and was unable to swallow even a little water. There were no purpuric spots present, although labial herpes had appeared. In the case of a child, three years of age, which had recovered after six weeks' illness, conjunctivitis, strabismus, and right-sided paresis, with attacks of frenzy, had been the prominent features. Blisters behind the ears and grey powder internally had been the treatment adopted.

Dr. O'Sullivan described the *post mortem* appearances of some of the cases. The fluid obtained by lumbar puncture was turbid but colourless. The pus in the spinal region lay in one case altogether outside the spinal dura, the cord being quite firm and apparently healthy. In the other cases it lay in the meshes of or underneath the pia mater, and the cord was softened. In the brain the pus was in all cases in or under the pia-arachnoid. The distribution of the pus on the surface of the brain was very symmetrical. In all cases the cerebro-spinal fluid was greatly increased in quantity, and was turbid, but not bloody or, to the naked eye, purulent. The Diplococcus intracellularis was found in the turbid fluid and in the pus, usually in pure culture. It grew best on Löffler's serum, but also on glycerine agar, and less actively on ordinary agar. On these media clear droplets first formed, which then coalesced to form a thick semi-transparent or yellowish opaque viscid layer. It lived longest on Löffler's serum, but even here sub-cultures taken five days after inoculation proved sterile. It grew well in the cerebro-spinal fluid itself. Plate cultures on blood agar (Wertheim's method) showed granular colonies yellowish brown in colour. The central part of the colony was made up of a heap of small spherical nodules exactly resembling those described by Wertheim as occurring in the colonies of the gonococcus. In the pus the organisms were seen in the pus cells usually in small numbers, diplococci with their adjacent surfaces flattened, varying a good deal in size and depth of staining. They did not stain by Gram's method. Inoculation experiments were unsuccessful.

Professor McWeeney said that the first case which had come under his notice was that of a school-girl, who was thought to have tubercular meningitis, and who died in the Mater Misericordiæ Hospital early in February. He was much struck by the presence of an accumulation of thick mucoid pus symmetrically placed in the posterior cornu of each lateral ventricle. Microscopic examination of the material at once revealed the intracellular diplococcus which he had never previously seen. In all the cases he had subsequently examined *post mortem* the same features recurred; occur-

rence of actual suppuration, the pus being very tough and mucoid; symmetrical disposition of the lesions on each side of the brain; distension of the lateral ventricles with turbid fluid; implication of the sides and back of the cord; and paucity of the intracellular cocci in the fibrinous exudation on the membranes. He had always found them more abundantly in the sediment obtained by centrifuging the ventricular fluid. He had not been so successful in cultivating the organism as Professor O'Sullivan. The unfavourable nature of the material was no doubt partly to blame. Even under favourable circumstances the organism was erratic in its behaviour, and he instanced one case in which Councilman, Mallory, and Wright had made 10 cultures from the meninges and six from the cord, and only obtained two growths from the former series and a single one from the latter, though slides made from the material used showed an abundance of the intracellular organisms. This led naturally to the discussion as to whether the inclusion in cells was the result of phagocyosis, and if so, whether Weichselbaum's organism was in reality only a form of Fraenkel's pneumococcus altered by having been subjected to phagocytism. In favour of the view that they had undergone phagocytosis were the facts that many of the organisms contained in the cells were undoubtedly dead, as shown by the experience of American observers and his own in trying to grow them; that many of the cases had a tendency to take on a relatively benign course; that when chronic cases succumbed it was often extremely difficult to detect any organism at all; and that the organism when inoculated on animals proved for the most part devoid of virulence, though some successful results had no doubt been obtained with goats. The remarkable, flattened shape of the meningococcus, and its decolorisation by Gram, were strongly against its identity with Fraenkel's organism; yet several observers of authority stated that it could be got to stain with Gram. As regards a capsule, the speaker demonstrated a preparation in which the intracellular cocci were contained in a distinct light area or "Hof," but this might perhaps be a "digestive vacuole." The same preparation which was made by the contact method from colonies obtained by inseminating the surface of a glycerine-agar plate with droplets of turbid ventricular fluid, showed the cocci growing out from their containing cells on to the surface of the medium, and thus proved them to be living, though included in the cell. The resemblance to the gonococcus in this, as well as in other respects, was very striking. A noteworthy point was the possibility of finding the meningococcus in the nasal mucus. In the very first case he

attempted this, the intracellular cocci were at once found. He had, however, made no systematic or controlled investigations, and thought that inasmuch as Schiff had, out of a series of 27 non-meningitic cases, found the organism in the nasal cavity of 7, this ready method of diagnosis could hardly replace lumbar puncture—the performance of which in all doubtful cases he considered very advisable. In working with pure cultures of the organism, care should be exercised, for three German observers—Schiff, Scherer, and Kiefer—had all got severe rhinitis, and in the case of the last-named there was some stiffness of the neck as well. This would seem to indicate a slight affection of the spinal meninges, and if the observation were accurate, would serve to show that the path by which the infective matter enters the cranial cavity is through the nose—possibly through the cribriform plate. The lymph-stream flowed the other way, but this was not of so much importance owing to the intracellular position of the parasite which might be carried in by the amœboid movements of the containing leucocyte. In epidemics of cerebro-spinal meningitis the use of antiseptic nasal douches, and the disinfection of the nasal secretion and sputum, seemed to him important measures. There was a disease of horses, known in Germany as Borna's disease, in which the essential lesion was a cerebro-spinal meningitis. Intracellular cocci had been found in the pus, and it seemed quite possible that the disease might prove to be identical with human cerebro-spinal meningitis. He had heard that numerous cases had lately been observed in horses about Dublin, and this was of interest in connection with the present epidemic amongst human beings. (Prof. McWeeney showed a series of preparations illustrative of the morbid histology of cerebro-spinal meningitis.)

The Section then adjourned.

PILGRIMAGES FORBIDDEN.

The Russian Government has forbidden the annual pilgrimage to Mesopotamia, as the plague is known to exist in the provinces of Assyr and Yemen in Arabia, and sporadic cases at Mecca and Djeddah, while it is raging in India with greater intensity than ever. Cholera also has appeared in Arabia, but no other government has interfered to put a stop to the annual pilgrimages. The stream of pilgrims is already numerous. The *Sem. Med.* states that over nine thousand had crossed the Suez Canal on the way to Mecca by Dec. 31, 1899, and the movement is still at its height.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir J. W. Moore, B.A., M.D. Univ. Dubl.;
P.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four weeks ending Saturday, May 19, 1900.

IRELAND.

Twenty-three Town Districts.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending May 19 in the Dublin registration area and the twenty-two principal provincial urban districts of Ireland was 22·1 per 1,000 of their aggregate population, which, for the purposes of these returns, is estimated at 1,062,188. The deaths registered in each of the past four weeks, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Weeks ending				Average Rate for 4 weeks	Towns, &c.	Weeks ending				Average Rate for 4 weeks
	April 28	May 5	May 12	May 19			April 28	May 5	May 12	May 19	
23 Town Districts	23·3	25·6	23·4	22·1	23·6	Limerick -	25·3	21·1	26·7	28·1	25·3
Armagh -	21·4	0·0	14·3	42·8	19·6	Lisburn -	29·8	25·7	21·3	25·7	25·6
Ballymena	50·7	16·9	16·9	33·8	29·6	Londonderry	22·0	14·1	25·1	17·3	19·6
Belfast -	18·4	24·8	20·0	22·2	21·4	Lurgan -	41·1	50·2	13·7	27·4	33·1
Carrickfergus	11·7	17·5	17·5	29·2	19·0	Newry -	16·1	16·1	4·0	20·1	14·1
Clonmel -	63·3	9·7	58·4	24·3	38·9	Newtownards	22·7	5·7	5·7	0·0	8·5
Cork -	27·7	29·8	22·1	21·5	25·3	Portadown	55·7	24·7	24·7	30·9	34·0
Drogheda -	11·4	30·4	38·0	22·8	25·7	Queenstown	17·2	5·7	28·7	28·7	20·1
Dublin (Reg. Area) -	25·2	29·7	26·3	23·0	26·0	Sligo -	10·2	40·6	45·7	10·2	26·7
Dundalk -	37·7	16·8	12·6	16·8	21·0	Tralee -	16·8	28·0	39·2	0·0	21·0
Galway -	41·5	26·4	52·9	15·1	34·0	Waterford	13·9	15·9	19·9	25·9	18·9
Kilkenny -	18·9	9·4	4·7	0·0	6·6	Wexford -	18·1	36·1	13·5	13·5	20·3

The deaths from the principal zymotic diseases registered in the 23 districts during the week were equal to an annual rate of 1·7 per 1,000—the rates varying from 0·0 in seventeen of the districts to 4·3 in Lisburn. Among the 153 deaths from all causes registered in Belfast are one from measles, 6 from whooping-cough, one from diphtheria, 12 from enteric fever, and 2 from diarrhœa.

DUBLIN REGISTRATION AREA.

In the Dublin Registration Area the births registered during the week amounted to 198—121 boys and 77 girls; and the deaths to 168—81 males and 87 females.

Deaths.

The deaths, which are 6 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·1 in every 1,000 of the population. Omitting the deaths (numbering 14) of persons admitted into public institutions from localities outside the area, the rate was 23·0 per 1,000. During the 20 weeks ending with Saturday, May 19, the death-rate averaged 35·9, and was 5·0 over the mean rate for the corresponding portions of the ten years 1890–1899.

Twenty-three deaths were due to zymotic diseases, being 11 over the number registered during the preceding week, and 5 over the average for the 20th week of the last ten years. Of these deaths 5 were caused by epidemic cerebro-spinal fever, 2 each by measles, enteric fever, and diarrhœa, and one each by whooping-cough, diphtheria, and ill-defined fever.

Thirty deaths were caused by phthisis, 6 by tubercular meningitis, 4 by tabes mesenterica, 4 by other forms of tubercular disease. Cancer caused 7 deaths.

Twenty-five deaths were caused by diseases of the respiratory system—namely, 13 from pneumonia, 11 from bronchitis, and 1 from croup.

Two deaths were caused by epilepsy, one by apoplexy, and 7 by other diseases of the brain and nervous system (exclusive of convulsions).

Convulsions caused 6 deaths in children; one under a month old, 4 under a year, and one under 5 years.

STATE OF INFECTIOUS DISEASE IN DUBLIN.

(1.) Cases of Infectious Diseases Notified to the Public Health Committee of the Corporation.

Sir Charles A. Cameron, C.B., Medical Superintendent Officer of Health for the City of Dublin, has furnished the following

information regarding the number of cases of Infectious Diseases in the City of Dublin, notified under the "Infectious Diseases (Notification) Act, 1889":—

Week ending 28th April,	...	...	52 cases.
„ 5th May, ...	...	...	74 cases.
„ 12th May, ...	...	...	45 cases.
„ 19th May,	...	...	58 cases.

Of the 58 cases notified, 10 were of erysipelas, 15 of enteric fever, 12 of scarlatina, 6 of measles, 1 of diphtheria, 11 of meningitis,[a] 1 of membranous croup, and 2 of continued fever.

(2.) Cases of Infectious Diseases under Treatment in Dublin Hospitals.

Eighteen cases of scarlatina were admitted to hospital during the week, and 18 were discharged, leaving 73 under treatment (exclusive of 19 patients in Beneavin, the Convalescent Home of Cork-street Fever Hospital). There was no death, so that the number under treatment remained unchanged from that of the preceding week.

Fourteen cases of enteric fever were admitted to hospital, 8 were discharged, and 36 remained under treatment at the end of the week, being 6 in excess of the number of cases under treatment at the close of the preceding week.

Two cases of diphtheria were admitted to hospital and one died, leaving 14 under treatment at the close of the week.

Only 2 cases of measles were admitted to hospital, 5 were discharged, and 10 remained under treatment at the close of the week.

ENGLAND AND SCOTLAND.

The mortality during the week ended May 19 in thirty-three large English towns, including London (in which the rate was 16·3), was equal to an average annual death-rate of 18·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·5 per 1,000; the rate for Glasgow being 20·3, and for Edinburgh 18·2.

[a] This disease has been placed upon the list of compulsory notifiable diseases by the Public Health Committee of the Corporation, from the 9th May for a period of four months, upon the recommendation of Sir C. Cameron, C.B.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of May, 1900.

Mean Height of Barometer,	29·946 inches
Maximal Height of Barometer (29th, at 9 p.m.),	30·422 „
Minimal Height of Barometer (3rd, at 9 a.m.),	29·047 „
Mean Dry-bulb Temperature,	51·9°.
Mean Wet-bulb Temperature,	48·1°.
Mean Dew-point Temperature,	44·3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·292 inch.
Mean Humidity,	76·2 per cent.
Highest Temperature in Shade (on 28th),	66·7°.
Lowest Temperature in Shade (on 19th),	39·4°.
Lowest Temperature on Grass (Radiation) (on 19th)	34·0°.
Mean Amount of Cloud,	55·2 per cent.
Rainfall (on 13 days),	1·919 inches.
Greatest Daily Rainfall (on 23rd),	·400 inch.
General Directions of Wind,	N.E., S.E., W.N.W.

Remarks.

A favourable springlike month, with the usual preponderance of polar (N.E.) winds, dry, sunny days, and clear, cold nights. Atmospheric pressure and rainfall were slightly below, temperature was slightly above, average. In the week ended Saturday, the 26th, cyclonic conditions prevailed, and there were heavy rains and hail showers, with thunder and lightning on Wednesday, the 23rd.

In Dublin the arithmetical mean temperature (52·5°) was slightly above the average (52·0°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 51·9°. In the thirty-five years ending with 1899, May was coldest in 1869 (M. T.=48·2°), and warmest in 1893 (M. T.=56·7°). In 1899 the M. T. was 51·8°.

The mean height of the barometer was 29·946 inches, or 0·043 inch below the corrected average value for May—namely, 29·989 inches. The mercury rose to 30·422 inches at 9 p.m. of the 29th, and fell to 29·047 inches at 9 a.m. of the 3rd. The observed range of atmospheric pressure was, therefore, 1·375 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 51·9°, or 3·1° above the value for April, 1900, 48·8°. Using the formula, *Mean Temp.* = *Min.* + (*Max.*—*min.* × ·47), the value was 52·1°, or 0·5° above

the average mean temperature for May, calculated in the same way, in the twenty-five years, 1865–89, inclusive (51·6°). The arithmetical mean of the maximal and minimal readings was 52·5°, compared with a twenty-five years' average of 52·0°. On the 28th the thermometer in the screen rose to 66·7°—wind, N.W.; on the 19th the temperature fell to 39·4°—wind, N.E. The minimum on the grass was 34·0°, also on the 19th.

The rainfall amounted to 1·919 inches, distributed over 13 days. The average rainfall for May in the twenty-five years, 1865–89, inclusive, was 2·630 inches, and the average number of rainy days was 15·4. The rainfall and the rainy days were thus somewhat below the average. In 1886 the rainfall in May was very large—5·472 inches on 21 days; in 1869, also, 5·414 inches fell on 19 days. On the other hand, in 1895, only ·177 inch was measured on but 3 days. In 1896 the fall was only ·190 inch on 7 days. In 1899 2·095 inches fell on 16 days.

Solar halos appeared on the 2nd, 14th, 19th, and 23rd. High winds were noted on 11 days, but attained the force of a gale on only one occasion—the 3rd. The atmosphere was slightly foggy on the 12th and 30th. Hail fell on the 22nd, 23rd, and 24th. Thunder and lightning occurred on the 23rd.

During the month the thermometer did not fall below 32° in the screen or on the grass. The mean minimal temperature on the grass was 41·6°, compared with 40·6° in 1899, 42·9° in 1898, 40·9° in 1897, 43·1° in 1896, 41·8° in 1895, 37·6° in 1894, 45·6° in 1893, 41·3° in 1892, and 37·7° in 1891. The maximum reached or exceeded 60° on 10 days, but never fell short of 50°.

The rainfall in Dublin during the five months ending May 31st amounted to 9·921 inches on 92 days, compared with 9·652 inches on 87 days in 1899, 10·568 inches on 84 days in 1898, 10·693 inches on 93 days in 1897, 5·971 inches on 70 days in 1896, 10·410 inches on 68 days in 1895, 12·709 inches on 90 days in 1894, 7·908 inches on 66 days in 1893, 10·099 inches on 80 days in 1892, only 5·995 inches on 63 days in 1891, and a twenty-five years' average of 10·496 inches on 81·6 days

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 3·190 inches distributed over 14 days—·720 inch falling on the 2nd and ·430 inch on the 8th. The total fall since January 1st, 1900, equals 16·381 inches on 84 days, compared with 15·475 inches on 86 days in 1899, 12·445 inches on 78 days in 1898, 14·120 inches on 90 days in 1897, 5·716 inches on 52 days in 1896, 12·845 inches on 58 days in 1895, 15·696 inches on 85 days in 1894, and 9·565 inches on 65 days in 1893.

At Recess Hotel, Connemara, Co. Galway, the rainfall amounted to 4·623 inches on 16 days. The maximal fall in 24 hours was ·760 inch on the 2nd. Nearly as much rain fell on the 26th, when the measurement was ·753 inch, and on the 4th, when ·740 inch was recorded.

The rainfall at Cloneevin, Killiney, was 2·30 inches on 13 days, ·55 inch being measured on the 2nd. The average rainfall in May at this station during the 15 years 1885–1899, inclusive, was 2·07 inches on 13·4 days. Since January 1st, 1900, 11·53 inches of rain have fallen at Cloneevin on 90 days. This compares with a 15 years' average of 9·782 inches on 71·7 days.

FATAL PULMONARY EMBOLISM AFTER FRACTURE OF THE LEG.

J. Svetchnikoff says a young soldier, with a simple fracture of both bones in the lower third of the leg, had syncope a few hours after a splint bandage had been applied; temperature rose, and death followed in 43 hours. Nothing abnormal was found at the autopsy, until the microscope disclosed fat embolism of the smaller vessels of the lungs and brain.

OCULAR PHENOMENA ASSOCIATED WITH CHEYNE-STOKES RESPIRATION.

G. Y. Eales noticed in a man, aged sixty-one years, with cardiac valvular trouble, Cheyne-Stokes respiration, that during the interval of the series of respirations both pupils remained stationary and somewhat contracted, but as a new cycle came on they both gradually became widely dilated, and so remained during the height of the cycle.

FRACTURE OF BOTH CLAVICLES.

Another case of this rare accident is reported by Thomas Milne. In this case a shunter was caught by the shoulders between the buffers of two gently colliding wagons, the force seeming just sufficient to snap the clavicles, and nothing more.

A CASE OF OSSIFICATION OF THE UTERUS.

C. Jeff Miller reports the case occurring in a girl aged sixteen years, with absence of the vagina, and in the space normally the site of the uterus and appendages was a mass which was removed by abdominal incision, and which proved to be composed of true, compact bone. No trace of ovarian or tubal structure could be found.

PERISCOPE.

THE XIPHOPAGES, ROSALIND AND MARIA.

Dr. Alvaro Ramos, who attempted to operate on these wonderful twins, found, when he had proceeded a little in his operation, that the parenchyma of the two livers was continuous, and the further steps in the separation was discontinued.—*Medical Record.*

RAT TAIL TENDON ABSORBABLE SUTURES.

E. Janes states (*Gaz. Méd. Belge*, November 15) that remarkably fine strong suture material can be obtained from the tail of the rat, cutting the skin around the base of the tail and pulling it off reversed like a glove. By scraping with the nail at the last vertebra a bundle of five or six tendons can be seized, which are aseptic, and can be used as they are, threading easily. They can be kept dry or in alcohol, are readily absorbed, and very useful for delicate surgery, especially for the eyes.—*Jur. Am. Med. Assoc.*

THE DEATH-RATE OF DUBLIN.

The excessive death-rate of Dublin is the subject of comment in our American contemporaries the *Medical Record* of New York and the *Pacific Journal* of San Francisco.

TUBERCULOUS COUGH.

℞ Syr. wild cherry, 2 drachms; tinct. lobelia, 2 drachms; tinct. sanguinaria, 2 drachms; syr. ipecac, 1 drachm; tinct. capsicum, 1 drachm. M. Sig.: Teaspoonful every two hours.—*Med. Summary.*

GREAT PECTORAL MUSCLE.

M. Altoukhoo reports (*La Méd. Mod.*) a case of the arrested developments of the great pectoral muscle, which coincided with the total absence of the lesser pectoral of the same side.

CHLORAL POISONING.

Dr. P. F. Rogers (*Medical Record*).—The patient, a middle-aged man, was suffering from the effects of prolonged worry and hard drinking. Dr. Rogers prescribed a mixture of chloral in 10-grain doses, with 15-grain doses of bromide of potassium, every three hours, with a double dose at bedtime. This was continued from Thursday to Monday, during which time the patient took 640 grains of chloral and 960 grains of bromide of potassium. When seen the

patient was found curled up in bed, with knees and chin approximated; his extremities were cold, and he was jerking and rolling fitfully about; breathing was slow and stertorous, with frequent, prolonged, loud, grunting expirations; the pulse was slow and soft, but full; the face ashen grey, the lips parched, the tongue swollen. *Treatment*—Strychnin hypodermics and heat.

LEGION OF HONOUR.

M. Mathias Duval, Professor of the Faculty of Medicine of Paris, has been created an officer of the Legion of Honour.—*Gazette Médicale de Paris.*

ETHER MORTALITY.

At a meeting of the New York County Medical Association, during the discussion on anæsthetics, Dr. Danbain said a change of opinion had taken place in New York City in recent years in favour of the more general use of chloroform as an anæsthetic. He made the statement that Dr. R. C. Kemp and Dr. W. H. Thomson had records proving most conclusively that in the hospitals of this city about one patient in nineteen dies of ether anæsthesia.—*Medical Record.*

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Tabloids of Quinine Hydrobromide.

Messrs. Burroughs, Wellcome & Co. have recently added these to their long list of "tabloid" preparations. As is well known, the hydrobromide appears to be less liable to produce cinchonism than any other salt of quinine, and for this reason it is frequently selected when large doses are required. "Tabloid" quinine hydrobromide is issued in two sizes, containing 3 and 5 grains in each, and will be found a most convenient form in which to exhibit this salt of quinine.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. IV.—*Notes on a Year's Work at Farnham House Asylum.* By W. R. DAWSON, M.D., F.R.C.P.I.; Medical Superintendent, Farnham House Private Asylum.

In the course of a year's practice, whether in or out of asylums, many points must arise, and many small observations be made, which, while not of sufficient importance to deserve separate publication, would yet be useful or interesting to others following similar lines of work, and it therefore seems a pity that it is not more the custom to publish collections of notes giving briefly the year's experience, since such notes, if judiciously selected, would often prove of greater practical value than more pretentious communications. This view must be my excuse for the following somewhat fragmentary and disconnected jottings.

Climacteric Insanity.—The influence of the climacteric, in conjunction with other causes, in producing insanity has been illustrated by two of the cases admitted during the year. Insanity arising at this period usually takes the form of a weak depression, with listlessness, vague fears of impending misfortune, and sometimes suicidal tendencies, the group of mental symptoms, in fact, which in greater or less degree characterise all cachectic states. The first of my cases is therefore interesting as an exception, belonging to the rarer class of climacteric mania. The patient was a

spare, healthy-looking, unmarried woman of fifty-four, with a good heredity as regards nervous disease, and good personal history except for an attack of "brain fever" twenty-nine years, and one of influenza one year, before. She last menstruated (very slightly) about four months previous to her admission, and had recently had a certain amount of worry. She had been peculiar for about a year, but became more so in the end of March, 1899, and on April 7th excitement appeared, and grew worse, being at first accompanied by pains in the bones, constipation, furred tongue, and "feverishness." Admitted on April 13th, she was garrulous and incoherent, elevated and excited, restless and wakeful at night. Temperature was not above normal, but the pulse was 120, tongue furred, and bowels constipated. She was kept much out-of-doors, and sedatives were given at bedtime, and she soon began to improve, but was apt to be wakeful and excited at night, with an incontrollable impulse to get up and work in obedience to voices, the work consisting of twisting her bedclothes into ropes and tying them round the furniture. Later she would recognise that the attack was coming on, and would ask to be given a sedative (chloral or sulphonal) to stop it. By May 9th she had greatly improved, though still a little elevated, and was anxious to go home, and on June 8th she was discharged recovered, exactly two months from the onset of the acute attack. Thus, there does not appear to have been any depressed stage at all in her case, and the short duration of the attack is remarkable, especially when the somewhat lengthened preliminary stage is considered.

The second case, though not so clearly due to the climacteric, which set in some six years before, was in its inception more characteristic. The patient, a lady of sixty, had become very peculiar at the climacteric, but (apparently as the result of bad general health) in the beginning of September, 1899, she was seized with acute melancholia, accompanied by insomnia, loss of appetite, and delusions, at first of a hypochondriacal character, then religious, and finally suspicious. She was admitted on September 13th in a very low state, which soon began to improve with

careful feeding, which had to be done for a long time by the œsophageal tube. She has been morose, silent, and restless, with occasional fits of chattering, and of excitement and restlessness, which at the beginning were very acute, being sometimes maniacal, sometimes melancholic. She at first freely expressed various delusions, but for a long period has scarcely spoken coherently. She is now physically in good health, has put on flesh, eats heartily, and feeds herself, but tends to be wet and dirty, takes little or no notice of anyone, rarely speaks, and simply fidgets about all day, and seems to have settled down into a state of hopeless dementia. It may be noted that in this case there appears to be intolerance of sulphonal, as a few doses brought on slight symptoms of poisoning—red-brown urine, with one or two attacks of vomiting—which, however, soon passed off on discontinuing the drug. Flatulence and digestive disturbance, so commonly met with where food has to be given by the tube for a length of time, were found to be best combated by a few 5 gr. doses of naphthaline, in my experience the best drug in such cases. This lady's heredity had also some points of interest, as although the last generation seems to have been quite healthy, two of her sisters were epileptic and died young, one died insane, and a fourth is so eccentric as to be almost beyond the bounds of sanity. It may also be noted that the blood-pressure has been very high, but erythrol tetranitrate failed to produce any good effect on the mental state, seeming rather to induce excitement, a result which I have observed in another case of excited melancholia. Possibly this may have been due to the headache sometimes caused by it.

A lady discharged last December would appear to be another instance of climacteric insanity, as the attack came on at fifty, though there is no history with regard to the menstruation. In her case it took the form of chronic delusional insanity, the delusions being of the unseen agency type, with hallucinations of touch mostly (of being on fire, being struck on the face, and the like), but sometimes of vision also. She had been here over ten years, and was at first very violent, but latterly has become much quieter and better, so that her relatives decided to try the

effect of a change, preparatory to bringing her home, although there is little hope of complete recovery.

None of these cases, therefore, presented very typical symptoms, the second, however, most so.

Asylum v. *General Hospital.*—The superiority of asylum over hospital treatment—even in a mild case of insanity—was well exemplified in a case admitted in the end of April, 1899, which went to prove that even the best general hospitals cannot in the nature of things possess the requisite facilities for dealing with such cases. The patient was a lady, thirty-four years of age, who had been seized in the previous October with insomnia and so-called hysterical attacks of screaming and violence, and depression, with certain delusions of a melancholic type. Change of scene having proved unavailing, she was sent for about three months to an excellent general hospital, but without good effect; indeed, she is said to have attempted suicide while there. After this she spent a month in a sort of private home, where she seems to have been treated not altogether judiciously, and became worse mentally. When admitted she was found to be very depressed, with certain somewhat indefinite delusions regarding herself and others. She was thin, suffered from constipation, and the menses had been for some months in abeyance. With careful hygienic treatment, attention to the digestive system, fresh air, and exercise, and attempts to afford her occupation and interest, she steadily, though rather slowly, improved with scarcely a break from the first. On Hallow Eve, six months after her admission, she was able to join in the entertainment, singing and playing, and she again performed at the Christmas concert, being by that time practically well. Even the shock of the sudden death of her mother on January 24th failed to cause a relapse, and she was sent out on probation a few days later, and discharged altogether in the end of February. She has since entered a hospital to be trained as a nurse, and has kept physically and mentally well.

Of course it is not implied that this was due to any special superiority in the treatment here; doubtless the case would have run as satisfactory a course in any good asylum. But

what is meant is that the open-air exercise, the individual attention, and the special regard to occupation and amusement, which are so important in cases of this class, would not have been possible in any general hospital.

Post-febrile Insanity.—The same point is also brought out by another case, which is, however, interesting for a different reason—viz., that it is an instance of the not very common post-febrile insanity, though belonging to the most frequent variety of the latter—the post-scarlatinal. The patient, a well-grown girl of twenty-three, was admitted on January 3rd last suffering from acute mania. There was no insane heredity, and the patient's health had been in the main good, though she appears to have been somewhat run down last autumn, and suffered from constipation. She had had a shock in the death of her father about two years before, previous to which she seems to have overworked at college, and there were more recently one or two minor causes of worry. In the middle of November she developed scarlatina, and suffered a good deal with her throat, though otherwise the attack was not severe and ran an ordinary course, and there was no kidney complication. After the subsidence of the fever, however, there followed a short stage of depression, and then she became restless, wakeful and excited, and in fact maniacal, with marked hysterical tendencies. On Dec. 6th she was sent to a general hospital, where she remained for a month, until all danger of infection had passed. While there she was unavoidably kept in bed, which was unfortunate, and was restless, violent, sleepless, and hysterical, with certain delusions. On admission she was greatly emaciated, was silly and elated, betrayed visual and auditory hallucinations, was a little mischievous and irritable, and dirty in her habits. For a few nights after her admission she required hypnotics, as she was wakeful and restless, but after the 9th she began to sleep well. She was kept out of doors as much as possible, and attention paid to diet and to the state of her bowels. As this seemed a favourable case for the fattening treatment so strongly advocated by Dr. Clouston, cod-liver oil was ordered, which she soon grew to like, and she rapidly gained in weight, putting on no less than two

stones during the first two months of her residence. Mentally she improved rapidly for the first three weeks, being able to join in games and so forth, though still showing slight hysterical signs; but towards the end of January she became somewhat stupid and excited (but sometimes depressed), and began to do foolish acts. After a week or so, however, this passed off, and she became bright and sensible. Towards the end of February, along with the appearance of the menses (in abeyance since the beginning of December), a similar relapse took place, and to a less extent during the same period in the end of March, at which times she was inclined to be wet. In the main, however, her progress was satisfactory, and between the periods she was practically almost well.[a] In this case also the influence of asylum treatment made itself almost immediately felt. The symptoms were more acute than is said to be usual in this class of mental disease, which differs from febrile delirium in being due, not to the direct influence of toxins on the cortical cells, but to the exhaustion of the latter, and indeed of the whole organism, by the bygone toxic action. The case, however, bears out Dr. Clouston's opinion that no hereditary tendency is required for the development of post-febrile insanity.

General Paralysis.—A case of this disease, which terminated fatally during the year, presented a few points of interest. The patient was an unmarried professional man of thirty-three, with a bad nervous heredity, but above the average in intellect. He had always been practically a total abstainer and otherwise steady, and there was no reason to think that he had had syphilis, though of course negative evidence of this sort has very little value. Certainly the usual contributory causes were absent, and the immediate origin of the disease must be traced to hard work and worry. The course ran about $3\frac{1}{2}$–4 years, and there were several points of peculiarity about it—depression in the earlier stages, absence of the markedly delusional state of mind which used to be considered typical, and the very slight degree of the pupillary affection, which so far as observed was confined to slight irregularity of outline,

[a] Since March 31st she has made a good recovery.

slight meiosis, and slightness of reaction, the last being probably due to the meiosis. The knee-reflexes were always much exaggerated, and towards the end the patient fell into a curious spastic condition, all the muscles being more or less in a state of contraction, so that he would sometimes sit in his chair asleep with his feet drawn up off the ground, the knees and thighs being flexed, though there were no contractures. This condition, though accompanied by frequent twitchings, was independent of the usual epileptoid seizures, of which he had a good many during the year, once indeed being for a short time in *status epilepticus*. At the very end, when confined to bed, spasms so severe as to resemble fits were caused by the passage of urine or flatus, but these were probably reflex and due to the presence of a calculus. During the earlier part of 1899 he had been very resistive, and indeed the case throughout the whole year was of an unusually spastic character. One of the most interesting features was the hæmaturia which persisted during the last month of life, and was in fact the immediate cause of the end. On several occasions during the year a few drops of blood had oozed from the penis, and the urine for many months had been ammoniacal, with a deposit of mucus. On Jan. 31st, however, a quantity of urine was passed stained evenly of a dark claret colour, and from this time until March 4th—when death took place—it was never free from blood, though the quantity varied and the colour was sometimes crimson, sometimes rusty, and almost invariably evenly diffused. Shreds of clot were often seen, and frequently a layer of what appeared to be fibrin was deposited on the bottom of the vessel. A variable quantity of albumen was present, sometimes much more than could have been accounted for by the blood. Microscopically, numerous red corpuscles were the only conspicuous objects. In addition to the spasms in micturition, which included grimaces as if of pain, the patient would sometimes grasp his penis, and for these and other reasons it was thought that a stone might have formed in the bladder; but it was judged inadvisable to incommode the patient by sounding, as nothing could have been done. The question was

whether the blood came from the bladder or kidneys, the indications being conflicting; and although a *post-mortem* examination was allowed the point was not absolutely cleared up, as in addition to the fact that the bladder showed signs of chronic inflammation, and contained a calculus about the size of a pigeon's egg, the kidneys, especially the left, were found to be enlarged and engorged, and to present the appearances of pyelonephritis both to the naked eye and microscopically. No blood was found anywhere, and it may be added that once when the bladder was washed out with an antiseptic lotion containing alum, the solution returned free from blood. Turpentine, copaiba, and ergot were tried without effect, and the hæmorrhage became even worse during the last few days of life.

Mental Features of Chronic Nephritis.—Another of the deaths took place last winter from chronic nephritis beginning insidiously, and complicated by pericarditis. The patient was a case of chronic mania of many years' standing, and had always been liable to fits of ill-temper from time to time. Towards the end of last summer, however, it was noted that he was continuously cross, unhappy, and discontented in a way unusual with him, and did not seem to become better. Dyspnœa, most pronounced at night, then led to careful investigation, and the symptoms of nephritis, together with mitral incompetency, were discovered. From this time the disease ran a somewhat rapid course, the end being immediately due to pericarditis. Cheyne-Stokes' respiration was well-marked at one time, but ceased some days before death. During the later period of the disease a purpuric eruption appeared, which became very profuse over the thorax just previous to the end. On the mental side the patient tended all through to be morose and irritable, resisting what was done for him, and full of passing fancies, but he was sometimes frightened, and towards the last was comatose. These symptoms are not quite those which have been described as characteristic of chronic nephritis, it being asserted that a sort of maniacal delirium is more usual; but here the mental character was rather an accentuation of a phase of the original insanity, which

could not in the first instance have been due to nephritis. A question of much interest in such cases is, whether the mental discomfort could have been connected with the increased pulse-tension of the disease, as increased arterial pressure appears to be related in some way to mental pain. In this connection it may be worth noting that erythrol tetranitrate and liq. trinitrini appeared at one time to have a good effect on the general condition.

General Physical Health.—The general health of the asylum has been good during the year. In the early autumn a few cases occurred of jaundice, mostly amongst the servants, at a time when there was something resembling an epidemic of this complaint in Dublin. The cases were slight, and soon recovered. In the winter there was an extensive epidemic of influenza, amongst both staff and patients. It cannot be said to have produced any marked effect on the mental state of the latter, contrary to what one might have expected when its influence in the causation of insanity is considered, and the attacks for the most part passed off without serious complication. One case only terminated fatally, owing to heart-failure in an old senile dement of seventy-five who had for many years suffered from mitral incompetency.

Membranous Colitis.—A case of this somewhat rare and very refractory complaint, an account of which was published two years ago,[a] has greatly improved since that time. At first, indeed, the disease appeared to grow worse, some of the attacks being very severe, and on two occasions complete tubular casts were observed. From the fact that starchy food was badly digested it was thought that the constipation on which the colitis appeared to depend might be due to a failure of pancreatic digestion, and consequently keratin-coated tabloids of pancreatic zymin, with bismuth and ipecacuanha, were tried for some time, along with regular (daily) enemata containing sodium bicarbonate, which latter, so far from losing their effect, actually seemed to improve the intestinal tone. At the same time a simple quinine tonic was given. The effect of this combined treatment (the first to do any real good) was to secure regular evacua-

[a] "A Case of Membranous Colitis."—Edin. Med. Journ., Sept., 1898.

tions and proper digestion of food, with the result that the membranous discharge almost ceased, in fact on only two occasions during the past year were a few small patches of membrane passed, though there has been an occasional discharge of ordinary mucus; and this notwithstanding the fact that all treatment except the enemata was discontinued about twelve months ago. About November last it was found that the daily enema could sometimes be omitted, but it was not until about February that a really marked improvement took place, which was due to the administration of regular large doses of sodium bicarbonate by the mouth. Since the commencement of this treatment, which was adopted by the patient himself (who is a medical man), only an occasional injection—say one in the week—has been required, the bowels acting normally for the most part, as they had not done for some five years, and only a little ordinary mucus is now occasionally discharged. The digestion also is better, and green vegetables and starchy foods are assimilated. All this to some extent supports the view above mentioned—viz., that the condition was caused by the prolonged constipation, whether the latter was due to failure of the pancreatic secretion or not.

Treatment.—In conclusion, a few further points regarding treatment may be mentioned, in addition to those already touched on incidentally. Thyroid administration was tried with one lady, mainly in deference to the wishes of her father, as the case is practically hopeless. She is a woman of 40, has been an inmate of the asylum for ten years, and is very demented. The administration of small doses—5 grs. of the dried gland thrice daily—having been tried in the summer for about three weeks, with no apparent result except to upset her digestion and cause her to lose weight, she was put to bed and treated by Dr. L. Bruce's method of large doses. On Oct. 20th she received 40 grs. of the dried gland, and after that (except on one day) 60 grs. per diem up to Oct. 29th inclusive, when the drug was stopped. During this time she was treated exactly like a case of mild fever, though the temperature never rose above 99°. Normally, however, as usual in dementia, it is only about 97·8°, so that this meant a rise of about 1° in the evening, which at once

ceased when the drug was discontinued. The pulse, usually rather rapid, rose to between 120 and 140, and did not subside for some time after the treatment stopped, rising, indeed, to 164 on one occasion. The tracing sometimes approached the febrile type. The increased katabolism produced by the drug was shown by the augmented excretion of urea, which was estimated almost daily, and gradually rose to nearly double the amount normal for the patient, sinking gradually again after the drug was stopped. The patient also lost at least 10 lbs. in weight, but soon regained it, and the bloated, purplish complexion usual to her, which she had lost, also quickly returned. She did not appear to be rendered uncomfortable by the treatment, which produced very slight mental improvement, if any, either during its administration or the subsequent reaction.

Attention having been lately directed[a] to the connection, on the one hand, between mental discomfort and high arterial pressure, and on the other between low arterial pressure and mental exaltation, an attempt was made in several cases to influence the mental state through the blood-pressure. Thus in a case of excited melancholia, with high pulse tension, erythrol tetranitrate was tried, but without good effect, and possibly the doses were not large enough. Some advantage, at least to the general state, however, appeared to be gained from its administration in the case of chronic nephritis above mentioned, but in a case of senile dementia, wakeful and restless—conditions in which its use has been recommended—no good result was obtained. Here, however, there was cardiac valvular disease.

Thinking that the converse effect—*i.e.*, rise of blood-pressure—might be useful in maniacal conditions, it was resolved to try the effect of administering suprarenal gland substance, which is known to be very energetic in raising arterial tension; and although it has only been used as yet in a single case—one of adolescent mania—the results are so far encouraging; but as the treatment was commenced on March 22nd the results cannot properly be given in the present report.

[a] See Address on "The Rôle of the Blood-Supply in Mental Pleasure and Pain," by W. R. Dawson, M.D., in Dubl. Journ. of Med. Sci., Feb., 1900.

Suprarenal gland has also been tried for some weeks in a case of minor epilepsy of long standing, in which there is some intolerance of bromides. It has been extolled as useful in epilepsy generally, probably from its tonic effects, but in this case there was a special reason for trying it, as the fits had a tendency to come on at times when the brain was likely to be anæmic, and it was thought that by raising the blood-pressure this periodical anæmia might be counteracted. It cannot be said, however, that it had any effect in this case; but as only 5 gr. doses were given, which may have been too small, it will probably be desirable to repeat the trial. It may be mentioned that strontium bromide appeared to be better borne in this case than the ordinary bromides.

ART. V.—*Pemphigus with Erythema Circinatum.*[a] By HENRY C. DRURY, M.D. Univ. Dubl.; F.R.C.P.I.; Assistant-Physician to Sir Patrick Dun's Hospital; Physician to Cork-street Fever Hospital, Dublin.

M. R., aged fourteen, was admitted to Sir Patrick Dun's Hospital on August 15th, 1899. I saw him in the hall the day before, and offered to take him in, but he did not come till the next day. On the 14th, when he presented himself first, he had a scanty eruption on the face, chest, and arms, consisting of groups of small vesicles for the most part the size of boiled sago grains, some few being the size of small peas; there were a few on the eyelids and cheeks, also a few scattered about the chest and arms. He complained of having felt weak and not well for the past two or three days, but said the spots had only appeared that morning or during the previous night. He said his legs and feet had been swollen for a few days, and that his arms and hands felt so, though in reality they were not.

He was a small sized, delicate looking boy, but well nourished, and well cared for.

A year ago he had, so he stated, rheumatic fever, and in support of this there was found a well-marked mitral systolic murmur. The pulse, however, was quiet and regular, and there was no œdema of the lower extremities.

The family is a peculiar one; the mother is a fragile, delicate

[a] Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, April 6, 1900.

looking woman, with paralysis of the left third nerve; two sisters are epileptic.

Aug. 15th.—When examined on admission it was found he had developed a most extensive gyrate or circinate erythema over the entire trunk and upper parts of arms and legs. This consisted of larger and smaller circles, sharply marked off from the healthy skin by a distinctly raised margin. These circles were of a bright red colour, somewhat paler in the centre than at the margins; some were separate, but many coalesced, forming large, irregular gyrate patches. The amount of surface involved by this erythema was much greater than the area of healthy skin between. The individual patches varied in size from that of a pea to areas two to three inches across. He did not complain of any itching or burning, but said the body felt swelled. The vesicles seen on the previous day, though still for the most part small, were a little larger than before, and on his right side near the nipple was one bulla about the size of a nut, which made the diagnosis of the previous day more certain, though the appearance of erythema was a little perplexing.

16th.—On the next day we were surprised to find that the erythema had faded, though the evidences of it had not disappeared. The whole body was mapped out by gyrate markings; the margin still could be felt by the finger to be distinctly raised; inside this the patch showed a very faint brownish discoloration, which when viewed from a distance was distinctly seen, but when looked at closely could hardly be said to be different from the healthy skin outside the bounding ridge. In addition to this, however, a great increase had occurred in the size and number of the vesicles and bullæ.

For six or seven days after admission the bullæ increased in number and size, this latter feature being due partly to increase in individual bullæ, but chiefly to the coalescing of several, so that huge irregular bags of fluid were formed, measuring in some cases as much as three inches by two inches. Many of these had the appearance of ordinary pemphigus bullæ—viz., tense, clear blebs on a slightly red base—the blebs becoming turbid, flaccid, and finally bursting or drying up, leaving the foliaceous epidermis slightly adherent to the floor. Many however, especially the larger ones, became filled with highly sanguineous fluid, and on becoming ruptured there was considerable inflammation and ulceration.

So far as could be made out the bullæ occupied only the site of the erythematous patches before described, but fortunately the erythematous patches did not all become bullous. Isolated bullæ

occupied isolated erythematous sites, confluent bullæ occupied confluent erythematous sites, but even here they did not necessarily occupy the whole of the erythematous patch.

The distribution of the bullæ was very extensive—they were present on the ears, eyelids (fortunately not on the conjunctivæ), cheeks, lips, scattered all over the trunk, front and back, one enormous one over the left scapula; all over the upper extremities except the hands, chiefly on the extensor aspect; one on the antero-internal aspect of the right forearm was three and a half inches long and nearly two inches across, and filled with bloody fluid; a great number were situated about the nates and between its folds, and all over the penis and scrotum.

During the first nine days the patient's temperature slowly but steadily rose till it reached 102° F., and then gradually fell, till on the eighteenth day it arrived and remained at the normal line. The period of rising temperature was about coincident with the period during which the bullæ were coming out and developing.

The condition of the patient was wretched in the extreme. The extent and position of the bullæ were such that it was impossible to prevent their becoming broken and ulcerated, and he was so weak that he was unable to help himself, and still it was almost impossible to lift or support without doing him further injury, and preventing the healing of the ulcerated parts. Repair, however, progressed, once it began, with marvellous rapidity, and he was discharged from hospital on the twenty-first day—at his mother's desire—almost completely recovered.

The urine was healthy throughout, with the exception that it threw down a copious precipitate of phosphates.

On the third day after admission to hospital Dr. O'Sullivan kindly took some of the fluid from a bulla for bacteriological examination. He reports that he found it sterile.

The patient was put on $2\frac{1}{2}$ minims liq. arsen. hydrochlor. with iron, three times daily, immediately after admission to hospital. Four days later this was increased to 5 minims, on the tenth day it was increased to $7\frac{1}{2}$ minims, and this was continued till he left on the twenty-first day. The drug agreed well, and he improved while he was taking it. The bowels were confined throughout, and were relieved by enemata.

ART. VI—*Remarks on Dupuytren's Contraction of the Palmar Fascia.*[a] By JOHN KNOTT, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dub.); M.R.C.P.I., M.R.I.A., &c., &c.

MY attention was specially drawn to this peculiar affection during the course of the past year, in which I happened to be called upon to examine some old soldiers with regard to their claims for pension. Five of those men presented themselves in succession in the course of a few weeks, every one of whom displayed the characteristic features of the so-called "Dupuytren's contraction of the palmar fascia." They had all enlisted as privates. None could offer any definite suggestion of an exciting cause, except that one thought that the prolonged holding of the rifle in the right hand might possibly have had some effect towards the production of permanent curvature of the surface of the palm and of some of the fingers. Each and all of those five pensioners testified to suffering—more or less—from rheumatic pains in the joints of some of the limbs, but hardly more in any of the cases than might have been expected from elderly persons who had been a great deal exposed to the vicissitudes of the atmosphere. Two of them, however, bore in some of the joints distinct evidences of the existence of chronic rheumatic arthritis. All of them were of distinctly "neurotic" temperament. All, except perhaps one, appeared to possess a degree of intelligence decidedly above the average. In every one of those cases the contraction first engaged the ring finger of the right hand, and afterwards passed to the little finger of the same side. The corresponding fingers of the left hand had afterwards become affected, but always to a slighter degree.

Since arranging my notes of the five cases already referred to, another pensioner presented himself bearing the same peculiar deformity. An additional feature complicates his case. He had received a bullet wound in what he calls the "heel of the hand" of the right side, exactly in the groove between the proximal extremities of

[a] Read before the Surgical Section of the Royal Academy of Medicine in Ireland, on Friday, March 30, 1900.

the thenar and hypothenar eminences. From the resulting cicatrix, which still presents a round, elevated, fibrous nodule, hard to the touch, and very tender on pressure, the process of contraction and development of rigidity had extended along the palmar fascia, and its terminal slips to the ring and little fingers. About a year or so later it began to develop in the fascia of the left hand, and the net result presented was almost exactly identical in appearance with that of each of the other cases. The above-mentioned were all ex-soldiers of the American Civil War.

Another case which came under my observation some years ago occurred in the person of an Irish soldier who had originally enlisted as a private, but was then a retired Major-General. His hands presented appearances which corresponded almost exactly with those of my American pensioners, or would-be pensioners. In all of those cases, as, indeed, in every case of Dupuytren's contraction that I have noted, the process commenced on the right side. In every case noted by me, with a single exception, the contraction was observed to engage the ring finger first, and the little finger afterwards. The fingers of the left hand became affected in corresponding order; and, in all of the cases to which I have hitherto referred, were contracted to a less degree. The middle was not more than very slightly engaged in any of those yet mentioned.

In the single case just alluded to, where the ring finger did *not* take the lead, there had been a deep wound inflicted by a piece of broken glass on the ulnar side of the palm of the right hand. The origin of the process dated from the cicatrisation of that wound; which, from its position, must have involved the longitudinal strands of the palmar fascia passing towards the little finger. The little finger was first and most deeply engaged in this case; and I was greatly interested in observing that when the pathological process came to engage the left hand, as it in time did, *the little finger suffered earliest and most* from the contraction.

Within the past few weeks I have met with a couple of other cases of this condition which presented features of

strikingly interesting contrast—one in the person of a very full-blooded and, evidently, very free-living barrister; the other was furnished by an attorney's teetotal factotum, who had officiated as a butler in the earlier years of his manhood. In the former of these two cases there had been a traumatic starting point. The metacarpal bone of the ring finger of the right hand had been fractured near the middle. The process of contraction commenced soon after. The left hand became engaged in turn, the contraction also affecting the ring finger first. In each hand the process advanced more rapidly, and diverged laterally to a greater degree, than in any other case that I had seen. Accordingly, the three inner fingers of each hand are now so far affected that the metacarpo-phalangeal joints are permanently flexed, and, pretty accurately, to a right angle; while the second and third phalanges are held as nearly parallel to the surface of the palm of the hand as parallels are likely to be drawn in human anatomy. The last phalanx remains fully extended in each of the affected digits. The fore-finger of each hand is habitually held in the extended position, but all its joints are perfectly flexible. I may mention in this connection that I have never seen the forefinger more than very slightly involved in Dupuytren's contraction. The thumb I have never found engaged; indeed, it would be rather hard for it to become so, as it receives no appreciable slips from the palmar fascia, and the condition which I am now engaged in considering is, according to my view, a pathological one of the palmar fascia only. If the thumb happens to present a somewhat similar deformity at the same time, my explanation is that the gouty, or rheumatic-gouty, process has produced the appearance, as it undoubtedly does in other joints as well.

I have, of course, from time to time met with other cases of Dupuytren's contraction, but they have all fallen within the limits of the extremes presented by these two latter cases—the exaggerated specimen of the over-nourished barrister which I have just attempted to describe, and that of the unassuming teetotal official of the attorney's sanctum, who was assuredly not the victim of gout, and presented

no other well-defined rheumatic lesions; and whose widest range of manual efforts would appear to have been placed between the extraction of corks and the serving of writs. Accordingly, in his case, although the thickened bands of palmar fascia were very evident, the curvature—I use the term curvature advisedly—of the affected fingers was but slight. Otherwise the case was perfectly typical in its origin and progress, beginning with the ring finger of the right side, from which it proceeded to engage the little finger, and, to a slight degree, the middle. The appearances in the left hand corresponded exactly, except that they looked as if somewhat "behind time."

In examining the views expressed by the various recognised surgical authorities on the nature and phenomena of Dupuytren's contraction, one cannot help being surprised at the remarkable ignorance of the subject which was displayed up to a comparatively recent period. As the condition is known to be fairly common, the surgeons of the former centuries would appear to have displayed little enthusiasm for close research; and, indeed, even in the present day there are many vague ideas and loose statements on the subject to be found in some of our best-known text-books.

The illustrious French surgeon whose name is so deservedly connected with the lesion does not himself mention an older authority on the subject than Boyer, whose "Traité des Maladies Chirurgicales" (1826) was but a few years older than his own "Leçons Orales" (1832). But the views of Boyer on the nature of the lesion, whose external signs he describes, are very infantile indeed. His short section on the subject opens with the sentence—"Les doigts, et particulièrement les trois derniers, sont sujets à une flexion permanente, involontaire, à laquelle on a donné le nom de contracture, et que quelques auteurs ont appelée en latin *crispatura tendinum*." He proceeds to observe that it is never seen in young subjects, and then goes on to enunciate a blunder which has been often repeated—"La maladie commence ordinairement par le petit doigt; elle gagne bientôt l'annulaire et quelquefois le doigt du milieu; mais quoique je l'aie observée un grand

nombre de fois, je ne l'ai jamais vue s'étendre au doigt indicateur et au pouce." The latter clause of the sentence is certainly much more accurate than the correlative statements made in many of our present text-books. But the writer's pathological views display an entirely mediæval juvenility of thought—"On est porté à croire qu'elle dépend moins de la contraction spasmodique des muscles fléchisseurs que d'une espèce de desséchement, d'endurcissement, et de rigidité du tendon et de la peau."

On this, as on many other dark places of surgery, the illustrious Dupuytren was the first to shed the fierce light of direct experimental research. Not content to accept the semi-metaphysical opinions of his predecessors, he always brought the evidence of his own senses to bear on the obscure objects of his investigation. And the vagueness of the pathology of the subject which I am now considering is well shown in his introductory observations—"On l'a successivement fait dépendre d'une affection rhumatismale, goutteuse, d'une violence extérieure, d'une fracture, d'une cause morbifique qui serait métastasée, comme cela arrive quelquefois à la suite d'inflammations des gaînes des tendons des fléchisseurs, ou d'une espèce d'ankylose; nous reconnaîtrons bientôt combien ces prétendues causes étaient peu fondées." And we find elsewhere in the report of the same lecture—"Les uns l'ont regardée comme un épaississement et un raccornissement de la peau, ... d'autres l'on fait dépendre d'une affection spasmodique des muscles. . . ."

The writer of this communication has had, in the days of his anatomy, opportunities of dissecting the hands of two subjects of typical specimens of "Dupuytren's contraction." Each was a facsimile of the other; and the conditions found were so exactly similar to those so well described by Mr. W. Arbuthnot Lane ("Guy's Hospital Reports," Vol XLIII.) that I take the liberty of quoting his description as the best word-picture of the condition that I have met with:—

"The two inner fingers of the right hand of a male subject were semiflexed on the palm, the ring finger being somewhat more so than the little finger.

"On extending them a prominent band appeared, running from the outer aspect of the first phalanx of the little finger along the palm to the annular ligament. The phalanges of this finger were but slightly flexed on one another.

"In the case of the ring finger, a firm band was seen to bridge across the angle between the first and second phalanges, running from about the base of the first nearly to the head of the second. No ridge appeared in the palm, but the web between the fourth and fifth digits became hard and prominent on extension.

"On removing the skin it was found to be very thin over the fibrous band connecting the phalanges of the ring finger, and to be very intimately united with it so as to require careful dissection to remove it without button-holing it. The subcutaneous tissue was also dense over the band going to the little finger, but there was not the same intimate union with the skin.

"On tracing out the digital nerves of the ring finger they became very ill-defined in the dense fibrous tissue, from which they were dissected with the greatest difficulty. Beyond this point the nerves regained their usual appearance. It was impossible to divide into fasciculi that portion of the nerve which was so intimately blended with the surrounding fibrous tissue.

"On removing this dense subcutaneous tissue there was seen some thickening of the superficial transverse ligament connecting the process of palmar fascia running to the ring finger with that going to the little finger, and this extended into the lowest limit of the web. On removing this the vaginal sheath over the first and second phalanges of the ring finger was seen to have undergone a curious transformation.

"Stretching from the fibrous sheath covering the first phalanx to that covering the second was a dense fibrous bridle, continuous along the whole of its convexity with the thickened vaginal sheath, and presenting a free, straight margin, which was before seen to have been intimately blended with the skin. The depth of this band was about one-third of an inch. It had no connection with

any process of the palmar fascia, nor with any other structure but the vaginal sheath, from which it had evidently arisen.

"It prevented extension of the articulation, but did not interfere with flexion. The tendons of the flexor muscles passed through the sheath without presenting any modification. They had become tight owing to the continual contraction of the part of the flexor muscles with which they were connected, and so opposed extension. On dividing the fibrous band with the vaginal sheaths and the tendons, although I used considerable force, I was not able to extend the joint. This movement was opposed by the contracted and thickened anterior ligament of the joint. On dividing this, and again applying extension, the finger flew into a position of over-extension, and would no longer occupy its normal position or any one intermediate between the one it first occupied and that of over-extension.

"This was seen to be due to the fact that the lateral ligaments had undergone contraction, owing to the prolonged flexed position of the articulation, so that they were made very tight when the finger was straightened. On opening the joint the cartilage over a portion of the anterior surface of the head of the bone was smooth, white, and opaque in appearance; elsewhere it was superficially eroded, transparent, and gelatinous, and the synovial membrane encroached on the cartilaginous margin. On the upper surface of the base of the second phalanx the portion of the cartilaginous surface which had articulated with the anterior surface of the head of the first phalanx retained its normal appearance, while elsewhere it was modified as described above. The articulation between the second and third phalanges was quite normal.

"The vaginal sheath of the little finger was quite normal. That process of the palmar fascia which went to the little finger, and more particularly that division of it going to the outer margin of the first phalanx, was thickened. It was intimately united with the subcutaneous tissue covering it, which had become dense and fibrous. On dividing it the finger was easily straightened."

In examining the views expressed by the various recent surgical authorities on the intimate nature of Dupuytren's contraction, and the definitions which they have respectively offered for the enlightenment of their readers, I have been specially impressed by the contents of a single sentence which occurs in the short section devoted to this subject in the deservedly popular text-book of Rose and Carless. The authors of this surgical manual inform us that "pathologically, it is due to a chronic overgrowth and contraction of the fascia, inflammatory in nature, and cirrhotic or sclerosing in type." And, in the recent "Surgery" published by Mr. Pickering Pick, we are told that "the disease would appear to be inflammatory in its nature, and to consist in the formation of scar tissue, which after its formation undergoes contraction, and so produces the deformity."

That the process is an inflammatory one, and that it is specially associated with the gouty and rheumatic-gouty diatheses, I have no doubt whatever. My full-blooded legal client, who presents the most advanced specimens of the condition that I have met with, is very decidedly gouty. And my Major-General patient, who lived much more abstemiously, and, consequently, did not give himself so special reasons for development of fibroid inflammations, informed me that when dining at mess, or among free-living members of the club profession, he was discomforted by the reflection—permanently present to his mind—that if he indulged in an extra glass of champagne he would be annoyed for two or three days after by an uneasy feeling of heat and tingling pain in the palm of each hand. And in every case which I have examined I have found some evidences of the co-existence of what I would like to call the fibroid diathesis. Where such diathetic tendency is very pronounced the palmar fascia is prone to suffer—as do the valves of the heart in other instances—from having so little chance of rest.

The relationship of the palmar fascia to the overlying skin also contributes to give to this condition some of its peculiar features. Anatomists are familiar with the fact that the separation of the skin from the subjacent "deep fascia" presents special difficulty in the case of the *palm of the hand*

and *sole of the foot*, as also in the case of the *scalp*. The skin in these localities is, so to speak, nailed down to the strong fascia beneath by vertical pegs of dense fibrous tissue. This arrangement accounts for the fact that the skin cannot be pinched up in these places; also that the subcutaneous tissue does not become the seat of fatty deposit or of œdematous infiltration to any marked extent. And in the hands which I had an opportunity of examining, the inflammatory process had very obviously extended from the palmar fascia along these vertical fibrous bands towards the skin. The cirrhotic process had had the effect of approximating the surfaces of skin and fascia, and the amount of "granular" fat normally found in this situation was reduced to a vanishing quantity. The "glossy skin" overlying the affected fascia bore evidence to the trophic changes in the best-marked of my cases.

The statement of Boyer, already quoted, to the effect that this contraction is oftenest found to engage first the little finger, is still, I am surprised to see, the expressed opinion of the authors of some of our best-known text-books of surgery. For instance, in the "System of Surgery" edited by Mr. Frederick Treves, F.R.C.S. (Cassell and Company, 1896), we are very definitely informed (Vol. II., p. 29) that "it commences in the little finger, which becomes flexed upon the palm, and gradually extends outwards to the other fingers, and finally to the thumb." More accurate is the statement made in the "System" edited by Messrs. T. Holmes and J. W. Hulke (Longmans, Green & Co. Third Edition. 1883), where we are told (Vol. II., p. 253) that "the ring and little fingers, the middle finger, index, and thumb, are usually affected in frequency and degree in the order in which we have placed them." As already observed, it has been my own unvarying experience that typical cases of Dupuytren's contraction—from which I exclude all cases of purely traumatic origin—are found to engage the ring finger first, and the thumb never. The latter fact is necessitated by the normal anatomical conditions, as the last-named digit receives no slips of the palmar fascial. Accordingly, when the thumb presents some simultaneous "contraction," I would explain its existence simply by the

presence of rheumatoid changes of the affected joints. This I have myself also seen.

Why it is that the ring finger is so usually selected for the unenviable distinction of being the starting point of this disease is a question which none of the surgical authorities with which I am acquainted has attempted to answer. And yet the cause is not far to seek. When cicatricial—or cirrhotic—contraction of the palmar fascia sets in, the metacarpo-phalangeal joint of the ring finger is the first to yield to the traction, being the *locus minoris resistentiæ*. Surgeons who are familiar with the anatomy of the hand understand why it is so. Every commencing student of the pianoforte is, at the very outset, made familiar with the deficient power of extension with which the ring finger has been gifted by nature. It has no special extensor tendon, such as is given to the index and to the little finger; and its range of movement is still further limited by the fact that there are always cross slips on the mid-dorsum of the metacarpus, binding its tendons on either side to those of the middle and little fingers respectively. An interesting collateral illustration of the pathological importance of deficient power of extension is noticed by Dupuytren himself in his observations on the troublesome cicatricial contractions which follow burns. As readers of the "Leçons Orales" are aware, the great French surgeon impressed strongly upon his hearers his belief in the preventability of the resulting deformities. And his great argument is, that although joints are often found permanently *flexed* by a cicatrix on the flexion aspect, nobody had yet observed a joint permanently *extended* by a cicatrix on the opposite side. The greater strength and more frequent action of the flexor muscles always prevented such occurrence; and the very small power of independent extension which nature has conferred upon the ring finger is the simple reason for its yielding so soon to cicatricial flexion.

The ancients held the belief that a nerve, or a vein, or an artery, or some ill-defined structure, was traceable from the heart to the little finger. The oldest of all national civilisations of which history furnishes any testimony is

that of Egypt; and the priesthood of that very complex hierarchy paid special attention to the claims of the fourth finger. They anointed it before the altar at their religious services with precious consecrated oils. In the sacred doctrine of numbers, too, this finger occupied a conspicuous position. The perfect number, six, was denoted by holding out the left hand with the fourth finger flexed, while the others were kept extended. The corresponding gesture of the right hand indicated the number six hundred, as each finger of this hand possessed a hundred times the value of the corresponding one of the left side. This method of numeration is alluded to by Solomon in his oft-quoted saying of wisdom: "Length of days is in her right hand, and in her left hand riches and honour." Also, in the observation of Juvenal, respecting the tricentenarian, Nestor:

> "—— qui per tot sæcula mortem
> Distulit, atque suos jam dextra computat annos."

The conspicuous practice of wearing rings—especially those connected with the nuptial contract—on the fourth finger has also contributed very highly to give it a special position among the digits. That the practice of assigning the dignity of bearing the marriage ring to the fourth finger of the left hand was recognised at an indefinite period before the Christian era is well known to all students of antiquity. Interesting testimony on this subject is to be found in the writings of Alexander ab Alexandro, Aulus Gellius, Macrobius, Pierius, and many others.

The origin of this custom has been a good deal discussed; but there can, I think, be no reasonable doubt that its prevalence really gave birth to the idea that there existed some special anatomical connection between this finger and the cardiac organ.

There is ample testimony in existence, too, that this groundless notion, like so many other vagaries and superstitions of ancient and mediæval times, came to make its impression upon the theory and practice of the healing art. We are told that the physicians of ancient days used this

finger specially and solely in mixing up the ingredients of many of their therapeutic preparations. Also that the heart was always affected by the presence of a ring upon this finger; the nature of the influence varying, of course, with the material of which the ring was composed. Also that in sudden faintings and "swoundings" this finger was vigorously massaged with a mixture of saffron and gold. Levinus Lemnius, a physician of pre-eminent reputation in the early part of the seventeenth century, reports excellent results from this treatment. He also affirms that this finger is the last of all to become affected by the phenomena of gout, and confidently asserts that when it becomes nodose the life of the owner is drawing rapidly to a close. And the special treatment recommended by Forestus for the cure of obstinate epistaxis consisted in the application of astringents to the fourth finger of the hand of the same side as the bleeding nostril.

In ancient Greek mythology the custom of wearing of rings was credited to Prometheus, and the early kings of Rome are supposed to have worn them. But the rings of the golden age of each of those famous States were of iron; and the elder Pliny makes the curious suggestion that it was when the growth of luxury carried with it the introduction of golden rings that they were transferred exclusively to the left hand, so that they could be more easily concealed from the critical austerity of the vulgar gaze.

That the wearing of rings on the fourth finger of the left hand was by no means an exclusive practice of antiquity is well known. A familiar illustration of this fact is found in Jeremiah, xxii. 24—"Though Coniah, the son of Jehoiakim, King of Judah, were the signet upon my right hand, yet would I pluck thee thence." Pliny also observes, in his remarks upon rings, that in the portraits and statues of the gods of Greece and Rome the ring was always worn on the forefinger; and that the Romans themselves, as well as the ancient Gauls and Britons, wore theirs on the middle finger. This was a move towards, at least, a more sheltered position. And I have no doubt that the classical deities wore their rings on the forefingers for the same reason that the "Celestial" aristocrats of the present day refrain from

paring their nails—simply to show that they (did or) do not require to employ their hands for any useful function.

There is no doubt whatever on my mind that the rings were transferred to the left hand, and its fourth finger, for "conveniency and preservation." Macrobius tells us that rings were at first worn on either hand, and on any finger; but that as luxury increased, and gems were added, with delicately-traced engravings and other easily injured forms of ornamentation, the use of rings was gradually limited to the left hand, simply because it was less used. Also, on this, as on the other hand, the thumb is too active a digit, and is usually called into requisition in the exercise of every manual function. The index and little fingers are greatly exposed to every contact, and every application of external violence. The middle finger is a good deal less so; but its size, strength, and dorsal prominence expose it very much to most forms of contact. So that the position of the ring finger is one of comparative shelter and retirement; and satisfactorily explains, I think, why it was chosen for this special function.

To return from this digression. That the pathology of Dupuytren's contraction is that of gouty or rheumatoid disease I have, as already said, no doubt whatever. The fact that there sometimes are no other prominent arthritic conditions present is no scientific argument against the view. I know one highly-distinguished member of our profession who has suffered—most painfully—from rheumatoid arthritis of the metacarpo-phalangeal joints of the great toes ever since the age of fourteen, yet the disease has never developed to any definite extent in any other part of the body. Baron Dupuytren himself, whose graphic description of this lesion still remains, upon the whole, the best with which I am acquainted, found it developed most frequently in persons so situated in life that the palm was a good deal exposed to pressure and irritation. The coachman who held his whip-handle tightly during a great part of the day, and the scribe who had to seal great numbers of letters and despatches, were among the most prominently-noted victims. When a tendency to fibroid inflammation exists, the mechanism can be easily understood. Dr. W. J.

Little (in Holmes' "System") tells us that, although he had formerly believed in the gouty or rheumatic origin of the condition, his opinion had been changed by the fact that "the persons affected have appeared singularly free from other manifestations of these conditions." A later sentence tells us that "the symmetrical character of the affection, the precise resemblance of one case with another, the frequent occurrence of the same deformity in father and son for several generations (four), as well as the above facts, confirm the opinion of its constitutional origin." These features appear to me to be most strongly corroborative of the view which I advocate. One of "the above facts" is that "the affection of the palmar fascia, unlike gout or rheumatism, is painless." The instructive case of my Major-General makes an illustrative contrast to this view.

The writer of the article on this subject in Heath's "Dictionary of Surgery" gives pointed expression to the opinion that the contraction is sometimes partly or wholly due to an affection of the tendon of the palmaris longus. Dr. Little, in Holmes' "System," appears to incline to a similar opinion. There is a curious perversion of ingenuity in such exploration of causes. Those who know the anatomy of the hand are aware that the tendon of the palmaris longus, *when present*, is partly adherent to the anterior surface of the anterior annular ligament of the wrist, sometimes entirely so; and that even in the cases in which, as often happens, the greater part of its fibres blend with the palmar fascia, the primary effect of contraction of this muscle (or its tendon) always is to *flex the wrist*, and NOT *the fingers*.

The point on which I feel most inclined to dissent from Baron Dupuytren's luminous and, in the main, accurate description, is with regard to his strong expression of the opinion that the skin was not involved in the pathological process, and that it became quite flexible and healthy in appearance when carefully dissected off the subjacent palmar fascia. The inflammatory changes were distinctly traceable towards the skin in the cases which I dissected, and the conditions so set up in the subcutaneous tissues must

necessarily affect the nutrition of the skin itself. The "glossy" condition of the latter I have already noted.

I have myself operated upon two cases only—one was by the "open" method, in which I exposed the diseased fascial slips by making triangular palmar flaps, with their bases opposite the metacarpo-phalangeal articulations, and after division of the contracted slips removed a portion of each, so as to prevent their direct re-union; the other, in which I followed the method recommended by Mr. Adams in his valuable monograph on this subject, and which I regard as by far the most rational form of procedure. The former case did at least as well as I anticipated; but the necessary extension employed during the healing process had the inevitable effect of leaving cicatricial surfaces of appreciable extent in a very undesirable position. And, in the second case, the intimate adhesion to the skin, to which sufficient attention is not directed in most of our surgical text-books, prevents satisfactory extension till a very considerable number of punctures have been made. Also the very great thickening which the normally slight prolongations of the fascial slips along the sides of the first and second phalanges will be found to present in well-marked cases, demands the fullest recognition. These slips always require careful and complete division close to the first interphalangeal joint; and, perhaps, on each side of it, above and below.

From my observations of Dupuytren's contraction, and my study of its conditions, I have been led to consider the hand in which it has become well established as capable of very beneficial treatment, but not of what can, or should, be called a "perfect cure." And the immediate and "lasting" cure which we are told is now so often effected by Köcher's radical operation of extirpation of the affected palmar fascia through longitudinal incisions, I regard as one of the ponderous jokes which writers of surgical manuals insert at intervals within their text, presumably for the purpose of relieving the weary monotony of scientific reading.

I consider it to be my duty to confess—after expressing so strongly my view of the pathology of the lesion—that although I am aware that the microbe of rheumatic gout

has been discovered, described, cultivated, and photographed, I have not sought for its presence in any of my cases of DUPUYTREN'S CONTRACTION.

ART. VII.—*The Nose, Cold Feet, "Tobacco" Heart, and Convallaria Majalis.* By H. S. PURDON, M.D.; Consulting Physician, Hospital for Skin Diseases, and to the Foster Green Consumption Hospital, Newtown-Breda, Belfast; Physician, Belfast Charitable Infirmary, &c.

THE injurious effects of the excessive use of tobacco—both smoking and "chewing"—on the general state of health is well known. There are, however, two symptoms connected with the weakened heart and "soft" pulse, viz.—a congested or dusky red colour of skin of nose, generally cold to the touch; and also, especially in winter, cold feet; in other words, a condition due to feeble circulation. I have not met with either of these in those engaged in out-of-door occupations, as in persons obliged to work like labourers, but observed such conditions in elderly or middle-aged men who lead a sedentary life, often troubled with constipation, and who use tobacco to excess, not only smoking but breathing the fumes for hours in the rooms they occupy, both sitting and bedroom. Tobacco smoking, when thus carried to excess, not only weakens and relaxes muscular tissue but may give rise to dyspepsia, especially in the young. It likewise causes palpitation, the paroxysms of which, as a general rule, occur in the evening, even when at rest, or during the early hours of the night, often associated with dreams and "night-mare." I would say that cigar smoking is a more exciting cause than the "pipe." An additional dose of the "weed" is sure to give rise to an attack. To the weak heart's action, I think, must be attributed the congested and reddened condition of the nose which is met with in some cases, as well as the coldness of the feet. Most medical practitioners know that the celebrated Sir B. Brodie found that "an infusion of tobacco thrown into the rectum paralysed the heart" (Pereira's "Materia Medica"). In fact, tobacco causes general relaxation both of the voluntary and involuntary muscles.

As regards treatment—Of course cutting off the quantity

of tobacco used and giving a cardiac tonic is desirable. I think I have derived much benefit from the use of the fluid extract of convallaria majalis or "Lily of the Valley," so well known and appreciated as a flower. It is said not to accumulate in the system like digitalis, and according to the late Professor Sée, quoted by Squire, may be used in all forms of heart failure, and does not exhaust the contractility of the heart or arteries. The Russian physicians prefer an extract made from the flowers only, but both root and flowers are used in these countries. Dr. Fernie, "Herbal Simples," holds that lily of the valley, the active principle of which is *convallarin*, quiets an irritable heart and also increases its power; moreover, the remedy is a safe one. The infusion taken "during an attack of palpitation and laboured breathing from a 'weak' heart, in tablespoonful doses, gives relief at once, whilst Dr. Potter, in his "Materia Medica," states that the mode of action of lily of the valley is "direct stimulation of the pneumogastric. The motor and sensory nerves retain their irritability and the muscles preserve their contractility, the cerebral functions and pupils unaffected, . . . the arterial tension is raised, and it is a valuable remedy in disordered rhythm, valvular affections accompanied by dropsy, and in a 'weak' heart."

Gerrard, the herbalist and surgeon, A.D. 1570, gives the following curious formula, and which, as well as the subsequent quotation, is interesting in a historical point of view—"The flower (lily of valley) being close stopped up in a glass, put into an ant-hill, and taken away again a month after, ye shall find a liquor in the glass which being continually applied helps the gout." Old Nicholas Culpeper, Surgeon Apothecary, writing in A.D. 1630, remarks in his "Complete Herbalist"—"The spirit of the flowers (of lily of the valley) distilled with wine, restores lost speech, helps the palsy, comforts the heart and vital spirits."

Calisthenic exercise with the arms, bending the body, and pressure with the hands "off and on," over epigastric region, I think, helps to restore "tone" to the heart, whilst for the cold feet and in all cases of any redness of the nose, especially in those of the female sex, no matter how caused, a mustard foot bath at night for ten or fifteen minutes,

followed by brisk friction, and in winter a "hot jar" in bed is most useful as well as comforting. For the local treatment of redness of nose a sulphur and calamine lotion rubbed into that organ stimulates the skin circulation and does good in restoring a natural appearance to that prominent and important organ.

PEROXIDE OF HYDROGEN.

H. E. KENDALL, M.D. (*Medical Record*), says peroxide of hydrogen injected under the epidermis produces immediate and complete anæsthesia of the whole skin. He has used it for over a year in opening abscesses, cutting off redundant tissue in in-growing toe-nails, opening the pleural cavity, and in one case the abdominal cavity. He does not think any absorption takes place, as the intercellular inflation from the gas generated seems to produce such pressure that the skin cuts like frozen tissue.

EXCESSIVE HÆMORRHAGE FOLLOWING THE REMOVAL OF A MYXO-FIBROMA FROM THE EAR.

C. R. DUFOUR (*Arch. of Otology*) has recently met with an experience of this kind, his patient being a woman aged fifty years. The tumour protruded in a polypoid form, and was surrounded with the wire snare, but the latter could not cut through, so the growth was removed by torsion. Severe arterial hæmorrhage followed, which hot water did not control, but which was entirely checked by compression of the carotid. Release of pressure was followed by immediate recurrence of the bleeding, so under anæsthesia the meatus was packed with gauze, which stopped all further trouble. The gauze was removed without incident in four days.

INFANTILE TYPHOID FEVER OF THE EXANTHEMATIC FORMS.

E. WEILL and CH. LESIEUR (*Gazette Hebdomadaire de Médecine et de Chirurgie*) report upon a remarkable frequency of typhoid in children presenting an abundance of rosy spots. They find that classic cases with few spots have marked or intense intestinal symptoms, and that the prognosis is often grave. Slight fever with few spots and intestinal symptoms slightly marked has a good prognosis. Intense fever with abundant spots and marked intestinal symptoms has a very grave prognosis. Purely exanthematic typhoid, such as exemplified in the cases now studied, with very abundant rosy spots, intestinal symptoms slight or almost nil, has an extremely benign prognosis.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Bubonic Plague: its Course and Symptoms, and Means of Prevention and Treatment, according to the latest Scientific Discoveries; including Notes on Cases in Oporto. By Dr. José Verdes Montenegro. Authorised translation by W. Monro, M.D. London: Baillière, Tindall & Cox. 1900. Pp. 84.

This essay, which aims at bringing together the very scattered information which is at present possessed as to the plague now prevailing in several parts of the world, commences by a chapter on the biological characters of the plague bacillus discovered by Yersin and Kitasato. The different modes of infection are then described. The path of entrance of the microbe can generally be determined by observation of the primary bubo, which is found usually in the lymphatic glands in immediate relation to the inoculated part. Inoculation takes place most frequently through the skin; probably there is always some small wound, although this is often so small as to escape observation, the bubo being apparently the primary lesion. After the skin, the following mucous membranes follow in order of frequency of inoculation:—Nasal, ocular, buccal, intestinal, rectal, and vaginal. Some doubt has been expressed as to whether infection can take place through the digestive canal. The author thinks it safest to admit the possibility, but thinks that this mode of infection is rare and difficult, in consequence partly of the acid of the gastric juice, partly owing to the abundance of other bacteria present.

The bacilli have been found in the pus of the suppurating bubos, in the sputum of patients suffering from the pneumonic form, inconstantly and in small numbers in the urine and fæces. They are absent from the sweat, pro-

bably absent from the milk, although direct observations on this point are wanting. They are found in the blood only in the later stages of the disease; even then they are not constant, but are sometimes present in enormous numbers.

Among the agents for transmission of the plague, rats and the fleas with which the sick animals are infested, take the first place. "It may be said that plague is a disease of rats which infects man." The frequency of dead rats before the epidemic breaks out among men is notorious, but the relations between the rat and man are not intimate enough to explain the frequency of the contagion. Cases have often occurred in men shortly after contact with a dead rat, while in other cases boys have amused themselves by throwing dead rats at one another without ill effect. This difference is explained by the experiments of Simonds, which appear to show that it is by the agency of fleas that the disease is transmitted from rats to men. Healthy rats harbour very few fleas, but sick rats are covered with vermin; these contain the microbes, which they have sucked with the blood. The fleas very soon abandon the rat after the death of the latter. Hence rats recently dead are dangerous, because the infected fleas may leave them and pass to the person who handles the rat; while, later, when all the fleas have departed, the body of the dead rat is harmless. Simonds put a sick rat and a healthy rat into the same cage, where, however, they were separated by a wire partition. The sick rat died, the other soon became ill, and died also. The disease was transmitted by the wandering fleas, whose intestines were found gorged with bacilli. In a second experiment, where the rats were free from fleas, the sick rat only died. Transmission of plague from man to man rarely takes place. The greatest danger is in making *post-mortem* examinations, when inoculation with infected blood may cause the disease. Transmission through the air seldom occurs, but transmission by fomites is an important factor in the spread of the disease. This is explained by supposing the agency of rats, who attack the infected luggage and effects, who then infect the fleas,

who then bite men, and transmit to them the disease. The infection by fleas explains why the path of the microbe is usually through the skin, and the fleas coming from the floors of the rooms attack chiefly the lower extremity. Hence the frequency of inguinal bubo. For these reasons it is contended that, while general hygienic measures should be adopted with great care during an epidemic, the destruction of the rats is the only way to really stop the spread of the disease.

The inefficacy of isolating infected areas, of the cordon, and of quarantine is pointed out, while the great importance of early notification of fresh outbreaks of the disease is of great importance in facilitating the measures necessary for stamping it out.

A clinical description of the disease is next given. A few cases occur where death follows suddenly within a few hours or minutes of the first symptoms, but such fulminant cases are rare. In typical cases the disease begins with a rigor, followed by a rapid rise of temperature to 102·2° to 105·8°. There is vertigo, lassitude, severe headache, frequent pulse and respiration, injected conjunctiva, and frequent vomiting. The bubo appears within a few hours and develops rapidly; it is very painful. The pulse and respiration increase in frequency, the temperature continues high, there is delirium, and death occurs about the third day by paralysis of respiration. The bubo does not become larger than a hen's egg. A typical case of plague is, however, exceptional. In more than half the cases the diagnosis can be made only *post mortem*, by discovering the bacillus. The bubo is absent in about half the cases. In these the disease develops like a pneumonia, or pernicious fever. Pneumonic plague is the most grave form and is always fatal. Those cases which are accompanied by bubo are less severe than those in which the glands do not enlarge.

The treatment of plague by drugs is most unsatisfactory. An effort should be made to support the patient's strength. To prevent cardiac failure, digitalis, caffein, and ether should be given. Four to six pints of milk daily and alcoholic stimulants are recommended.

There is great variation in the severity of the disease, which may cause sometimes only slight malaise. The pneumonic form is not only the worst but the most dangerous to the attendants, in consequence of the large numbers of bacilli discharged in the sputum. A bacteriological examination of the sputum is useful for diagnosis.

The only agent capable of modifying the course of plague is the antitoxic serum. The use of Yersin's serum, got from a horse made immune by injection of cultures of plague bacilli, is limited to preventive inoculation, because the immunity which it confers does not last beyond three weeks. "Preventive vaccination with anti-plague serum of the family of a patient *always* prevents the disease from spreading among them, while many are attacked who are not vaccinated." The treatment of infected persons by the serum is also highly satisfactory, the more so the earlier the treatment is commenced. An improvement in the symptoms, with rapid disappearance of bacilli from the blood, is observed. Lustig and Galeotti have obtained a preventive and curative serum by a method different from that of Yersin. The experiments made with it on men are few, but the results are good.

Haffkine has prepared a lymph by killing by the action of heat the bacilli in a broth cultivation, and inoculating this in doses of 5 c.c. With this lymph very extensive experiments have been made in India, and apparently with very good results. The inoculation causes a mild attack of plague which, however, is never fatal or even serious. The immunity begins only eight to ten days after the inoculation, but is prolonged for six months. A second inoculation, made ten days after the first, greatly strengthens the immunity. Thus of cases inoculated at Dharwar—

Inoculated once, 5,712, 69 were attacked, 31 died.
Inoculated twice, 3,349, 9 were attacked, 5 died.
Not inoculated, 5,614, 957 were attacked, 756 died.

The author finally describes the spread of the disease in the recent outbreak at Oporto, and in an appendix specially written for this English translation he gives the conclusions which may be drawn from this epidemic up to the

present time (February, 1900). The most important point is the doubt thrown on the very positive statements given in the text as to the spread of the infection to man from rats by the agency of fleas. Montenegro, although expressing himself more cautiously than before, does not give up the theory of Simonds. The researches of Nuttall also make it unlikely that this is a common means of infection (see *Dublin Journal of Medical Science*, March, 1900, p. 210). The experiments made with the immunising lymph at Oporto seem to have been carried out in a faulty and careless manner, but the results got with Haffkine's lymph appear to have been good.

It will be seen that this book contains a good *resumé* of our knowledge of plague, and is of interest at present, when the disease is so widely spread through our Empire, and may at any time reach our own shores.

On Neuroma and Neuro-fibromatosis. By ALEXIS THOMSON, M.D., F.R.C.S.E. Edinburgh: Turnbull & Spears. 1900. Quarto. Pp. 168, with 20 Plates.

DURING the last six years the author has observed fifteen cases of neuroma in the Edinburgh Royal Infirmary. This has led him to thoroughly study the subject, and the outcome of his work is the handsome volume before us. He adopts an anatomical classification, and divides neuromata into true and false. The absence of ganglionic cells in the true neuromata is very doubtful, so that they must all be looked on as due to newly-formed nerve cells and fibres, the latter of which may or may not have a medullary sheath, giving a basis for the subdivision into the myelinic and amyelinic varieties. Many of the cases of true neuroma which have been recorded are of a very doubtful nature, but there are five instances in which the histological examination of the tumours leaves no doubt as to their nature, and on these the account in the text is founded, the author having no personal knowledge of this rare form of tumour. He gives abstracts of the cases. In one there were multiple tumours in the subcutaneous tissue of the abdomen and thighs, in the others the growths were found in the left dorso-lumbar sympathetic

cord, in the supra-renal plexus, in the dorsal sympathetic, and in the ala of the nose, respectively.

The false neuromata in which the growth is not one of nervous tissue, but of some form of connective tissue, are subdivided under four heads :—

I.—Circumscribed or solitary tumours growing from the connective tissue frame-work of nerves, or of the ganglionic enlargements of nerves. The distinctive feature of the members of this group "does not consist in the tumour being invariably solitary, but in the absence of any general disease, or tendency to disease, in the peripheral nervous system, such as the neuro-fibromatosis which constitutes the essential lesion in the group which includes the multiple neuromata." With the exception of the tumour, which grows from one of the connective tissue sheaths of the nerve, and may consist of different types of connective tissue, the nerve is healthy, the fibres not undergoing that destruction in the innocent varieties which is common where the tumour is of a malignant type. According to their structure the circumscribed tumours of nerves may be classified into—(*a*) innocent, as fibroma, myxoma, lipoma, angioma, lymphangioma, and cysts connected with these (under this division the painful subcutaneous tubercle is included); and (*b*) malignant, as sarcoma. The author has collected twelve authenticated cases of primary sarcomata of nerves, two of which have come under his own observation. The great sciatic nerve is that most frequently affected. The removal of the tumour with a portion of the nerve gives only temporary relief, metastasis in internal parts almost always supervening. The best and, in most cases, the only chance lies in early and high amputation. In cases where this cannot be done, division or resection of the nerve may give temporary relief. In the following sentence we cannot quite follow the meaning of the author—"Where it is impossible to do this (divide the nerve) above the tumour, it would appear to be equally satisfactory when performed below the tumour, the explanation being that the chief source of pain concerns those fibres which are derived from the peripheral distribution of the nerve, and which are injuriously pressed upon as they pass through the tumour." Details are given of five innocent and two malignant neuro-

mata which have come under the personal observation of the author, as well as abstracts of cases recorded by other writers, including the remarkable case of tumour, probably sarcoma, of the Gasserian ganglion recorded by Professor R. W. Smith.

II.—The second division of false neuromata includes the diffuse overgrowths of the connective tissue sheaths of nerves and of ganglionic enlargements of nerves, or the condition known as neuro-fibromatosis. Of this class there are six subdivisions—

(*a*) Generalised neuro-fibromatosis—multiple neuro-fibromata. Of this group a large number of examples have been recorded, the most remarkable being those of Smith. Dr. Thomson describes at considerable length the structure of these tumours, and illustrates their anatomy by several plates of dissections and microscopic preparations of the affected nerves. He thinks that degeneration of the nerve fibres does occur in some of these cases, but that it is exceptional and of comparatively little importance.

(*b*) Plexiform neuro-fibroma. "This is to be regarded as a fibromatosis confined to, and at the same time diffused throughout, the distribution of one or more contiguous nerves, or of a plexus of nerves." Of this condition Bruns has collected forty-two cases, the author adds eighteen from other sources, and records two which have come under his own observation. He gives some beautiful drawings of these remarkable growths. Although they may occur in connection with any nerve, they are most common on the head and neck, affecting the trigeminal and superficial cervical nerves. They may occur singly or associated with other forms of neuro-fibromatosis.

(*c*) Cutaneous neuro-fibromata or molluscum fibrosum. Our knowledge of the nerve origin of these tumours dates from 1882, when the classical paper of von Recklinghausen was published. This writer believed that in addition to the sheaths of the cutaneous nerves, the sheaths of the blood vessels, sweat glands and ducts, and even the hair follicles were involved. This is, however, probably an error, as shown by Dr. Thomson's observations, made by improved and modern methods.

(*d*) Elephantiasis neuromatosa, or pachydermatocele,

"includes those forms of neuro-fibromatosis in which, in addition to the fibromatosis of the cutaneous nerves, there is also a pronounced and diffuse overgrowth of the skin and subcutaneous tissue in a particular region or segment of the body. It is not a strictly defined group, for transition forms are met with from molluscum fibrosum and from the plexiform neuro-fibroma to elephantiasis." The disease is of congenital origin, and begins usually in a pigmented spot or mole, or in a molluscum fibrosum. Its growth is at first slow, but may become more rapid after puberty, and may finally attain enormous proportions.

(*e*) Pigmentations of the skin associated with neuro-fibromatosis. Abnormal pigmentation of the skin is common in cases of neuro-fibromatosis. It presents itself in two forms—as punctiform spots chiefly affecting the covered parts of the body, and as larger patches irregularly distributed. Soldau has found in every case examined that "the pigmentation and thickening of the skin was associated with a fibromatosis of the terminal filaments of the cutaneous nerves, and he formed the opinion that the pigmentation was in all probability a result of this fibromatosis, and that pigmented moles, in the majority of cases, are the first visible indications of a fibromatosis of the cutaneous nerves."

(*f*) Neuromata undergo sarcomatous change so frequently that persons affected by the former condition must be looked on as more liable to malignant disease than other people. The growth is very liable to recur, but is not prone to form visceral metastases, but is commonly followed by the transformation into sarcomata of neuro-fibromatous tumours in other parts of the body. The prognosis in such cases is exceedingly bad. "The list of cases of neuro-fibromatosis in which sarcoma has supervened is one continuous record of deaths."

The author has collected forty-five cases of neuro-fibromatosis in which a *post-mortem* examination was obtained. In only five of these was there lesion in the central nervous system. In one there was diffuse glioma of the spinal cord. In the others, tumours, whose nature is not stated, in the cerebrum or cerebellum. A valuable table gives the particulars of seventy-seven recorded cases of neuro-fibromatosis.

It is probable that the period of origin of neuro-fibromatosis is either in intra-uterine life, or in early childhood, or adolescence. It is sometimes hereditary or occurs as a family disease. Sex seems to have no influence, nor is the disease ever the result of any external cause. It appears to be a developmental disease of the peripheral nervous system, dating from intra-uterine life.

In the chapter on the clinical features of neuro-fibromatosis attention is called to the great differences observed in the tenderness of the tumours. It is suggested that the increase of tenderness often observed is due to changes supervening in the nerve fibres themselves. It occurs commonly when sarcomatous change takes place, with destruction of nerve fibres.

The plexiform variety of the disease is more innocent than the generalised disease in the trunks of nerves, and the result of operations are better. A table gives the records of 56 cases of this form of neuro-fibromatosis.

A long chapter is devoted to the histories of six cases of generalised neuro-fibromatosis, which have come under the personal observation of the author. These records, from the care with which they have been made, and the fulness and accuracy of the clinical descriptions, are a most valuable contribution to our knowledge of the disease.

III. In the last chapter the stump or stomach neuromata are considered. They are closely allied to the true neuromata, because they possess newly-formed nerve-fibres. These are met with not only in the proximal, but also in the distal end of a divided nerve. Their origin is assigned by Kennedy, whose views are accepted by the author, to the cells of the sheath of Schwann. They are, consequently, not mere outgrowths from the old nerve-fibres. The old axis cylinders undergo degeneration in both distal and proximal ends. The newly-formed fibres in the proximal end may reach maturity because it is in continuity with the nerve-centre, while in the distal end they remain in an immature condition until their continuity with the nerve-centre has been restored by operation and suture. "These observations are in harmony with the clinical fact that nerve-conduction may be rapidly re-established after such operations, the young nerve-fibres in

the distal end being ready to take on this function; this refers especially to the sensory functions. The recovery of the motor functions may be long delayed, or may never take place at all, on account of the secondary changes which occur in the muscles, which may have progressed beyond recovery." It would seem that the direction of growth assumed by the young nerve-fibres is determined not so much by mechanical conditions as by a chemical attraction, exerted on them by the old nerve-tissue. The whole subject is one of very great interest.

IV. The fourth division of false neuromata includes the enlargements of nerves in leprosy, syphilis and tuberculosis.

Encyclopædia Medica. Under the general editorship of Chalmers Watson, M.B., M.R.C.P.E. Vol. I. Abdomen to Bone. Pp. 357. Vol. II. Brachial Plexus to Digestion. Pp. 562. Edinburgh: William Green & Son. 8vo. 1899.

"One of the difficulties of every practitioner is the selection of a reference library which will adequately cover all the points arising in the course of his practice, and will deal with them fully, concisely, and authoritatively. . . . . The Encyclopædia Medica has been designed to meet this difficulty, and to provide what is in effect a complete and authoritative reference library in itself."

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That it will be "complete, concise, and yet exhaustive" we cannot as yet say, and must defer expressing an opinion until the entire work is in our hands.

That it will be "authoritative" we have little doubt. Only those who have devoted special time and study to the subjects allotted to them have been chosen, and a glance down the list of authors who have promised contributions will, we think, satisfy even the most critical reader.

As the matter is arranged alphabetically, reference to any special article will, *in most instances*, be easily made.

We insert this reservation as we cannot see the object of separating both abdominal aneurysm and aortic (thoracic) aneurysm from the article on aneurysm, and treating each as a special subject.

Owing to the rapid strides which now-a-days are made in all branches of medical and surgical science, it is necessary, in order to keep abreast with the times, to be continually purchasing new works, or fresh editions of old ones. To meet this very pressing difficulty, it is intended to issue from time to time at a small cost "a supplementary volume, and along with it a simple and original device in the shape of gummed printed marginal notes, which with little trouble can be placed opposite the articles affected, and show at a glance if, and where, later information has been given"—an arrangement which we feel sure will be cordially welcomed by the profession.

The first volume opens with a short article on the clinical examination of the abdomen. Injuries of the abdomen are dealt with by Mr. Swain, and an excellent account of their symptoms and treatment are given. Some modification of the views expressed as to the treatment of abdominal injuries, especially in relation to bullet wounds, seems likely to follow from the experience of military surgeons in the present war.

A very exhaustive article on anæsthesia occupies over thirty pages. The physiology of the different anæsthetics is fully dealt with, and the methods of administration, the cases in which each are suitable, and the relative advantages and disadvantages of each, are clearly given.

We have always held that ether, as being safer than chloroform, is the best anæsthetic for general use. We are glad to find the author of this article is in complete accord with our views. "For more than twenty years," he says, "I have been an advocate of the general use of ether in preference to chloroform (of which I had previously an experience of twenty years) on account of my very firm conviction of the greater safety of ether."

Most of the objections urged against ether as an anæsthetic are, we believe, not the fault of the drug, but rather of the administrator of it, and if the careful rules laid

down by the author for its administration were followed by all anæsthetists we would hear far less complaints from patients.

With the method put forward for the administration of chloroform we are not so well pleased. Placing a towel over the *entire face* and upper part of chest, and using the left hand, "with the fingers spread out beneath the towel over the mouth and nostrils in good convex shape." Two objections to this method strike us at once—(1) the difficulty of keeping a watch on the condition of the pupils; (2) the utter impossibility of using this method in operations about the face and neck. We have always employed a Skinner's frame for administering chloroform, and find it in every way satisfactory. The entire article is one which will well repay a careful study, as it is eminently sound and practical.

Dr. Byrom Bramwell, whose writings are so well known and appreciated, has been entrusted with the article on aphasia. At the outset he states that "the term aphasia should be limited to those derangements of speech which result from functional disturbance or organic disease of the *higher cerebral speech mechanisms so-called*," and not to "the defects in the perception of spoken and written speech, which are due to disease in the end organs of special sense." By a general adoption of this definition much confusion which now exists would be prevented.

The subject is divided up under four headings—anatomical, physiological, pathological, and the clinical features of aphasia, and closes with a short account of the medical jurisprudence of aphasia, dealing especially with the points to be borne in mind in connection with the will-making power of aphasic persons.

The article is clear and concise, and gives the reader a complete account of all that is known at the present time of this abstruse, yet most important, subject.

The student preparing for his examination, or the operating surgeon, will find all that he requires on the subject in the article on ligature of arteries. The text is accompanied by simple, yet clear, diagrams, showing the position for making the skin incision in each individual case.

With the views of the writer, Prof. Shepherd, of Montreal, on the much-discussed subject of the treatment of appendicitis, which he divides into expectant and operative, we are in perfect accord. We quote a few extracts :—

"In ordinary cases the patient should be kept in bed on milk diet, and the course of events watched. Medicine will do but little for him, though such drugs as calomel, salines, opium, &c., are advocated as curative remedies by enthusiastic therapeutists." "Purgatives should be avoided."

"Immediate operation is indicated if there is a rapid pulse and respirations, with a normal temperature."

"A person who has had two attacks of appendicitis had better have the offending organ removed."

"Operation should be advised after a single severe attack if the patient does not entirely recover, or if a tender appendix or tumour remain after the subsidence of the fever."

The details of the operations both during the interval and in acute cases are very fully given.

We cannot pass over the article on asthma, written by Prof. Leech, of Manchester, without recording our sense of the loss the profession has sustained by his untimely death. Like all his writings, the style is clear and easy and marked by the individual impress of his great ability.

The subject of balneology is treated in an exhaustive article by Dr. Fortescue Fox. Much valuable information on the properties and therapeutic uses of the different baths now in medical practice is given, and a very complete list of the British and Continental watering places is added.

Diseases of bone occupy the last forty pages of the first volume. The author classifies the subjects as follows:— 1. Bacterial diseases, including pyogenic, tuberculous and syphilitic. 2. Parasitic diseases. 3. Trophic diseases, such as rickets, osteo-malaria, &c. 4. Tumours and Cysts. Only the first and fourth are discussed in this article, the remainder being described under their special headings.

While not wishing to underestimate the importance of pyogenic diseases of bone we hardly think the author was

wise in devoting twenty pages to it and dismissing in five the far more common affection of tuberculous disease.

A few lines suffice to discuss the question of tuberculous diseases of the spine, and, though no mention is made of the fact, we presume a further reference to this very important subject will be made in a future article.

Vol. II. contains an exhaustive series of five articles, each entrusted to different writers, on the brain, and includes the physiology of the brain, diseases of blood vessels, cerebral tumours, atrophy, hypertrophy, inflammation and cysts and intracranial surgery, and well repays a careful study.

Mr. Mansell Moullin treats the subject of the uses and dangers of catheters in a thoroughly practical manner, and Dr. Risien Russell, who had contributed the article on cerebral tumours, again appears as the writer on the cerebellum, a subject which for many years he has made peculiarly his own.

In discussing the subject of chlorosis the writer, to our mind, lays far too little stress on the altered conditions of the plasma of the blood as an important factor in the disease. In ordinary anæmia the serum is deficient in quantity, but in chlorosis abundant; and this fact, which now seems proved conclusively, does away with the theory as to the causation of the venous hum in the neck so pronounced in this disease—a theory which in the present article is still advanced as the best.

As an illustration of the wide scope of this Encyclopædia we may mention that the volume under review contains no less than five articles of special interest to the ophthalmologist—cataract, choroid, colour vision, conjunctiva, and cornea—while the gynæcologist will find his special tastes catered for in the articles on broad ligaments, chorea gravidarum, coccygodynia, and curettage.

Space will not permit of any further notice of the many other useful articles that are to be found in this comprehensive work. We do not profess to have read all the articles contained in these two large volumes, but what we have only tends to increase the good opinion we had formed at the outset of our study.

It only remains to say that each volume contains between five and six hundred pages, is bound in a simple, yet effective, binding, that the printing is clear and the illustrations, though not numerous, are excellent, and that the cost of each volume is only twenty shillings. The entire work will consist of twelve volumes, one appearing quarterly, so that the cost of purchase will be spread over three years, thus bringing it within the reach of all, and, we are sure, securing for it a widespread circulation.

We have received the next two volumes of this work, but must reserve our notice of them.

A Treatise on Surgery for Students and Practitioners. By THOMAS PICKERING PICK, Consulting Surgeon to St. George's Hospital; Senior Surgeon to the Victoria Hospital for Children; Inspector of Anatomy in England and Wales. London: Longmans, Green & Co. 1899.

IN presenting this treatise to us Mr. Pick states in his preface that the book is mainly intended for students, but hopes that practitioners will find it a useful work of reference, containing a concise and practical account of the causes of surgical injuries and diseases, the signs whereby they may be recognised, and the appropriate treatment to be adopted for their cure. With an experience of almost 30 years the author is well fitted for the work he has undertaken.

To deal with modern surgery in a single volume of 1,176 pages is a very difficult matter, and consequently the reader must be prepared to find many omissions of the views and theories held by other surgeons on the nature of injuries and diseases, while those of the author alone are advanced. The book is, therefore, a summary of the author's own experience. The descriptions for the most part of the surgical affections and diseases are given practically and succinctly; but we think, in a work intended for students and practitioners, more space should be given to a detailed account of the method of treatment advocated by the author. It is more with the object of obtaining a good account of treatment, and especially that form of treatment which experience such as that of the author has found the best, that practitioners

consult these books of reference. In our experience, too, students can generally give a fairly good account of the signs, symptoms, and pathology of lesions, but have only a very hazy idea indeed of their appropriate treatment.

The chapter on injuries of the head is a good one, while that on abdominal surgery is concise, but at the same time instructive, and we are glad to see the author's experience has led him to advocate operation the moment acute intestinal obstruction is diagnosticated; this only he modifies by referring to other plans of treatment in that form induced by intussusception in young children.

We failed to see any chapter dealing with the influence of constitutional conditions upon injuries or operations; similarly, no mention is made of the modes of administration of anæsthetics, with both of which it is imperative that students should familiarise themselves. The description of the preparation of the patient for operation, and of the methods of sterilising the skin of the patient as well as the hands of the surgeon, occupies less than one page. No mention is made of the means adopted at present for the complete sterilisation of instruments and dressings. The section dealing with diseases of the brain scarcely comes up to the standard we should expect, while the symptoms and treatment of the various perforations of the intestines take up only 19 lines. In no branch of surgery has the departure from the old traditions been more pronounced, and in none have the successes been more brilliant than in these cases, consequently such scant reference seems the more surprising. In the treatment of appendicitis the author must be looked upon as one who takes his stand amongst those who advocate the expectant plan, but he qualifies his views by the imperative statement that a high or increasing pulse-rate indicates operative interference. In dealing with the treatment of gangrene of the gut, produced by strangulated hernia, two procedures are mentioned—(1), "Leaving the stricture undivided, and making a free incision into the gangrenous intestine, thus forming an artificial anus, the great objection to which is that the opening in the intestine may be too high up and the patient thus perish from inanition;" (2), "Resection of the gangrenous part, and performing an end-to-end

anastomosis." Surely in a work of reference some comparison of the mortality, after these respective procedures, for the guidance of the practitioner, might have been given; but of course the author, without this, recommends the second of these. We should state the mortality of the former is over double that of the latter.

In conclusion, we may say the book is well printed and the illustrations are both original and efficient.

A Manual of Surgical Treatment. By W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, Surgeon to King's College Hospital and the Children's Hospital, Paddington Green, &c.; and F. F. BURGHARD, M.D., M.S. Lond., F.R.C.S., Teacher of Practical Surgery in King's College, London, Surgeon to King's College Hospital, and the Children's Hospital Paddington Green, &c. In Six Parts.

THIS work, we doubt not, will be hailed with delight by most surgical practitioners. Ordinary text-books deal more with symptoms, signs, pathology, and diagnosis, leaving the important part of treatment practically untouched, but more especially the treatment subsequent to operation. This is a want which most, if not all, young surgeons have experienced, and it is this want the authors, in their preface, state they have set themselves to remedy by giving a detailed account of that method of treatment which, in their hands, after a long experience, has yielded the best results.

Vol. I. deals with the treatment of general surgical diseases, including inflammation, suppuration, ulceration, gangrene, wounds and their complications, infectious diseases and tumours. A chapter on the administration of anæsthetics, by Dr. Silk, is also included. The earlier chapters devoted to inflammation, suppuration, ulceration, and gangrene give sufficient information on the clinical and pathological features to make their treatment, which is discussed very fully, appear thoroughly practical, and appeal strongly to the reader. The next chapter is by Dr. Silk. In it many valuable hints will be found. Many elaborate and, in our

opinion, some dogmatic rules are laid down in connection with the factors determining the choice of an anæsthetic.

By those who have not acquired sufficient facility in the administration of ether, or who are not constantly in the habit of giving this drug, Dr. Silk says, A. C. E. mixture should always be given between the ages of three and twelve, and again over sixty (in this latter case, if the operation be prolonged, increase the amount of ether), while chloroform should always be given under three years of age. There can be no doubt but that ether, in the hands of one unaccustomed to give it frequently, is dangerous, but surely a mixture containing both ether and chloroform in his hands must be more so, and chloroform alone worse still.

The section dealing with wounds in general and their treatment is good, but under the heading "Treatment without Antiseptics" the following statements occur:—"The other plan—the aseptic—in which attempts are made to keep wounds aseptic without the use of antiseptic lotions and dressings is theoretically good, but practically it does not yield the results which are obtained by the methods just described"—*i.e.*, the antiseptic method. After describing the manner in which this aseptic treatment is to be carried out, they say, "There is therefore no possibility of correcting any accident that may happen during the operation, such as dust falling on the towels, or the unobserved contact of the hands with any object that has not been disinfected. In the 'Antiseptic' or 'Listerian' plan, which is the one we recommend, these accidents, if they do occur, may be automatically remedied, because everything is being frequently soaked in antiseptic solutions. No doubt, theoretically, it ought to be possible to carry out this aseptic plan, and if it were found in practice that the use of antiseptics gave rise to great irritation in wounds, the employment of a cumbrous and troublesome method, such as the so-called 'aseptic' one, would be justified." We are of opinion that in a large proportion of properly regulated hospitals on the Continent and at home the only method adopted is this "aseptic" one, the "antiseptic" method being reserved only for those cases in which sepsis existed before operation. Failure when only those who know the principles of the method are admitted

to assist in any way at the operation is the exception. Where in any well regulated hospital theatre (if it be properly looked after, and if not it is the surgeon's fault, who does not see that everything is right) will dust come from to fall upon the wound? Then, again, in private the surgeon, unless in case of emergency (when the antiseptic method might be adopted), usually selects the room in which he will operate a day or two prior to operation, and gives instructions to his nurses to see that it is properly prepared, consequently we assume there will not be any dust there either. Just at present there are so many beautifully-kept private hospitals, with well-equipped operating theatres, in most of our large centres that operations in private houses are daily becoming fewer. We should be inclined to look upon the "antiseptic" method as the "cumbrous and troublesome" one.

In the treatment of burns we are pleased see the authors endorse what we have for years been in the habit of teaching—viz., that Carron oil is a filthy application, and is responsible for a great deal of the mortality after burns.

In the treatment of tetanus we fail to see any mention of the most recent method of treating acute cases by intra-cerebral injections of antitetanic serum.

Vol. II. deals with deformities, excluding spinal curvature and the surgical affections of the tissues, skin, fasciæ, lymphatics, bursæ, tendons, muscles, nerves, veins, and arteries. The first part of this volume dealing with deformities is a most readable contribution to this subject. All the most recent developments of the treatment of these conditions are ably discussed, and what appeals largely to us is the extremely interesting manner in which this is done, thus differing from most other treatises on this subject with which we are acquainted. We are glad to notice that in this, as in the first volume, the authors discard many of the older methods of treatment, and rightly condemn the so-called expectant line of treatment of carbuncles by poultices alone.

The chapters dealing with the traumatic affections of tendons and nerves are excellent. In the chapter on the surgical affection of arteries, the authors state that "distal" ligature is "especially suitable for aneurysms at the root of the neck, particularly when the innominate artery or the 1st

part of the subclavian or carotid arteries is implicated, and it has been used in some cases of aneurysm of the arch of the aorta." Now it would seem to us that the application of such a ligature must, when tied, enormously increase the pressure of the blood within the sac unless the aneurysm is a sacculated one with only a very small opening from the artery into it. This sudden increase in pressure, if the wall of the sac be thin as is often the case in these aneurysms, may lead to rupture and death from hæmorrhage, or at any rate lead to a gradual increase in the size of the aneurysm, such as occurred in one case in which we had the advantage of making a dissection about a year and a half subsequent to ligature of both 3rd stage of subclavian and root of the carotid arteries for a small innominate aneurysm. To such an extent did the tumour enlarge, and that quickly too after the application of these ligatures, that, at the time the specimen was sent to us from the country for dissection, the aneurysmal sac looked more like a large lung lying outside the chest-wall than anything else. In this case clearly the increase in the rapidity of the growth of the aneurysm was due to the increased tension produced by the application of the distal ligatures.

Two pages are devoted to digital and instrumental pressure for aneurysms. This seems to us too much; in fact we should have thought these procedures would have been relegated to oblivion when compared with the more satisfactory and safer methods of ligature which are practised at the present day.

Volume III.—This volume fully maintains the good opinion produced by the perusal of the preceding ones. Part I. deals with the treatment of fractures, and in our estimation is one of the best-handled of the subjects hitherto dealt with from the practitioner's point of view, as this subject has received but scant treatment in the ordinary text-books to which practitioners as a rule have access. In this alone a real want is well supplied.

Operative procedures are frequently advocated, in fact we may say operation is advised in all the following conditions—(1) Simple fractures in the shaft of a long bone where good apposition cannot be maintained after a few

days; (2) fractures of long bones in the neighbourhood of joints such as the elbow, knee, &c., and especially if comminuted, such as a transverse supra-condyloid fracture of the humerus or femur where a skiagram on the second or third day shows imperfect apposition, and in all cases where fracture is T-shaped; (3) fractures of the olecranon and the patella; (4) all compound fractures; (5) in some cases of intra-capsular fractures of the femur and humerus; the bones in all these cases being firmly united by silver wire, steel screws, or ivory pegs. In the treatment of ununited fracture we are at a difficulty to understand why the authors mention the injection of tincture of iodine at the present time when they so frequently, and rightly too, advocate operation in the cases above-mentioned.

We should like to draw attention to a prescription recommended for the treatment of hypostatic pneumonia occurring in old people, which is as follows:—

℞. Ammon. Carb., gr. 5.
Spt. Ætheris Nitrosi, ʒss.
Vini Ipecac., ♏x.
Tr. Scillae, ♏xv.
Aquæ menth. pip. ad ʒi.
Every four hours.

The spiritus ætheris nitrosi, as generally sold, will certainly cause decomposition of the carbonate, setting free CO_2 gas, while it is just possible a dangerous compound may be produced—viz., nitrite of ammonium.

This volume concludes with a few chapters on amputations, where again only those methods which the authors have proved in their own practice to give the best results are described in detail. In connection with the amputations performed in the neighbourhood of the knee-joint, we should like to notice particularly that described as "Stokes-Gritti," in which the authors state that the femur is sawn through the condyles, and the patella, after its articular surface has been sawn off, is applied against the cut surface of the femur. This may lead the reader to understand the operations devised by these two surgeons to have been the same, but such is not the case. Gritti, in his operation, certainly did saw through the condyles of the femur, and tried to bring the cut surface

of the patella against the cut surface of the condyles without any posterior flap. Stokes, to obviate the difficulty of doing this, as well as to render the cut surfaces more nearly equal in size, made his section of the femur at a point three-fourths of an inch above the condyles, while, in addition, he cut a posterior flap equal in length to one-third that of the anterior flap, and subsequently fastened the bones with sutures. We cannot fully agree with the authors that it is a bad operation to perform, for it gives an excellent stump for the subsequent adaptation of a "pin leg" in a labouring man.

In conclusion, we congratulate the authors on their success. The books are clearly printed, of handy size, readable, and admirably illustrated.

Bacteriology in Medicine and Surgery ; a Practical Manual for Physicians, Health Officers, and Students. By Wm. Hallock Park, M.D., Associate Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College, and Assistant Director of the Research Bacteriological Laboratories of the Department of Health, City of New York ; assisted by A. R. Guerard, M.D., Assistant Bacteriologist, Department of Health, City of New York. Illustrated with 87 Engravings and two Coloured Plates. London : Kimpton. 1900.

In this book of over 600 pages Dr. Park covers the whole ground of bacteriology, with special reference to such parts of the subject as are likely to be of practical utility to physicians, surgeons, and medical officers of health, and, after a pretty careful reading, we can aver that his work has been carefully and conscientiously performed, and that the volume does really deserve a place on the book-shelves of those for whose use it is intended. In a few places Dr. Park is not up to date—*e.g.*, when in dealing with the Protozoon of malaria he fails to indicate the nature of the so-called "flagellate" form (p. 632), and ignores the discoveries of Ross, Grassi, and MacCallum, though he certainly does regard the mosquito as the probable intermediate host of the parasite (p. 639). In a book, the preface of which is dated

November, 1899, we should have expected a more definite pronouncement. Again, in dealing with the bacillus of leprosy, our author fails to mention the researches of Sticker, who has shown that it is in the nasal mucous membrane that this organism finds its first *nidus;* that it is by the examination of the nasal mucus that the diagnosis can most readily be made in doubtful cases where leprosy is suspected; and that the infection is most probably disseminated by this material. These important results have thrown a new light on this somewhat obscure subject, and we are disappointed to find that they appear to have escaped the attention of Dr. Park.

One of the very best chapters is that on practical disinfection and sterilisation. It contains a good deal of matter evidently derived from the author's personal experience, and his exposition of the manner of using formic aldehyde as a disinfectant is particularly instructive. He discusses in detail the several factors—heat, concentration, moisture, lowered pressure, and the nature of the material to be operated on—which influence the germicidal action of the vapour, and describes in detail the various methods which have been proposed for evolving it. Lamps for producing formic aldehyde from pure alcohol he finds to be neither satisfactory nor economical. The Trillat system, which "consists in heating under three atmospheres of pressure a solution of formic aldehyde gas in water mixed with 30 per cent. of calcium chloride, known as 'formochloral,' to a temperature of 135° C. (225° F.)," yields results which are not more satisfactory than with other methods. The apparatus is, moreover, expensive and heavy. Another method of evolving the gas is from formalin by the New York Sanitary Construction Company's system, which "consists in heating the ordinary commercial formaline to a temperature of about 1,000° F. in an incandescent copper coil or chamber, and allowing the vapour to pass off freely." "This (in a modified form) is, up to the present time, the most practical apparatus we have met with, when the initial cost, about 25·00 dollars, is not an objection. It is handled by the H. K. Mulford Company, Philadelphia." It is adapted for the disinfection of rooms. Then there is

Schering's system, which "consists in heating the solid polymer of formic aldehyde (trioxy-methylene) in a lamp specially constructed for the purpose by the Chemische Fābrik auf Aktien in Berlin. The trioxy-methylene is used in the form of compressed tabloids or pastilles, each of which contains the equivalent of 100 per cent. of formic aldehyde gas, according to the manufacturers, and weighs 1 gramme. . . . The results obtained by us in superficial disinfection, when from 150 to 200 pastilles have been used to each 1,000 cubic feet, have been good." Satisfactory results have also been obtained from boiling the formalin with 10 per cent. of added glycerine in a copper vessel, and conducting the vapours into the room; and even by the still simpler plan of hanging up sheets wetted with formalin in the proportion of 6 to 12 oz. for each 1,000 cubic feet, and closing the room tightly, very fair superficial disinfection may likewise be obtained. In the next few pages we find highly practical information as to the disinfection of dwellings, carpets, bedding, books, carriages, hands, ligatures, surgical instruments, and the like, as well as for the sterilisation of milk for children's use. It is these practical details which make Dr. Park's work really useful.

It is, however, not until we come to Chapter XXI., on diphtheria, that we find our author at his best. Here we are presented with the fruits of an extremely wide experience, for diphtheria is common in New York, and the bacterial diagnosis appears to be well-nigh universally carried out, not only in institutions but in private practice as well, owing to the great facilities afforded by municipal bacteriological laboratories. In this respect, as in so many others, we in Ireland have failed to keep pace with the progress of civilisation elsewhere. To return, however, to Dr. Park, his wide experience, gained in the Bacteriological Laboratory of the New York Public Health Department, enables him to speak on the subject of diphtheria with an especial authority. Particularly interesting are his views on Neisser's stain, of which he says that "in our hands, with a very large experience, neither the Neisser stain nor any other stains, such as the modifications of the Roux stains, have given any more information as to the virulence of the bacilli than the usual

methylene blue solution of Loeffler." After dealing with the conditions influencing the production of toxin in culture media, the presence of non-virulent but genuine diphtheria bacilli, of pseudo-diphtheria and "xerosis" bacilli, and of virulent diphtheria bacilli in healthy throats, as well as with the persistence of diphtheria bacilli in the throat after recovery, Dr. Park lays down very clear instructions for the production of the antitoxin for therapeutic purposes. He explains how the antitoxicity of the serum is to be titrated, and gives a *résumé* of Ehrlich's well-known theory of *toxoids*, whilst adducing reasons why it should not be unconditionally accepted. We know of no English work in which the entire subject of diphtheria is dealt with in so full and detailed a manner as it is in this book of Dr. Park. Very full of valuable practical hints is also his chapter on typhoid, where we find details as to the preparation of the three special culture-media—those of Elsner, Hiss, and Capaldi—which have hitherto proved most effective for the isolation of typhoid from a bacterial mixture containing *coli*. The intracellular diplococcus of epidemic cerebro-spinal meningitis—of special interest to Dublin physicians—likewise comes in for a full notice, and the mode of performing lumbar puncture is given. Towards the end of the book we find an extremely concise and valuable account of the essentials for fitting out a laboratory for the production of calf vaccine, and details as to the bacterial content of calf lymph. The largest number of bacteria ever found by the authors was 126,360 and the smallest 523, *in a loopful of the material.* They attach but little importance to the number of germs, and find that "if we wait until the vaccine is surely sterile it is very apt to be also useless—that is, the vaccine bodies are dead also."

The book is well printed on good paper, and there are fewer misprints and *lapsus calami* than is usual in books of American origin. The two coloured plates add but little to the value of the book. Of the micro-photograms all that can be said is that a few are good and the others of various, often of excessive, degrees of badness.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

Resection of the Stomach, a portion of the Duodenum, and the greater part of the Pancreas. By M. Ricard. Translated by George M. Foy, M.D., F.R.C.S.; Surgeon, Whitworth Hospital, Drumcondra.

At a meeting of the Academy of Medicine of Paris (*Gazette des Hôpitaux*), M. Ricard asked permission to relate the history of an illness, and to present the patient herself. She is a thrifty woman of fifty-two years. She entered the Hôpital St. Louis on the 20th April, 1899, for gastric pains which commenced two years before. After six months her sufferings increased, and were intensified after food. Her appetite completely went; she had vomiting daily. She wasted to a perfect skeleton, not weighing more than 102 lbs. Her skin was pale and bloodless. A tumour irregular in shape and hard to the feel was felt in the epigastric region. Carcinoma of the stomach was diagnosticated. A certain degree of mobility, the form of the lump, the change of position of the lump when the stomach is empty and it is distended, caused the surgeon to think that the tumour was situated on the greater curvature of the viscus. On the 26th of April the patient was anæsthetised, and a sub-umbilical incision made, by which it was discovered that the tumour not only occupied the greater curvature of the stomach, but also extended over the two surfaces, and principally over the posterior wall. The mass was with difficulty moved, and at first seemed incapable of removal; nevertheless, a careful examination showed that the two ends of the mass were accessible—easily at the duodenal end; with difficulty at the cardiac end. This revealed the difficulty that beset the operation.

After making an opening in the gastro-hepatic epiploon, sufficient for the insertion of a pair of clamps to cut off the blood supply of the section, the duodenum was cut off at the beginning of its vertical portion. Two long forceps were placed at the left of the neoplasm, and the stomach was cut at the cardiac end of the œsophagus. An oblique fold of tissue, from 3 centimetres to 4 centimetres long was

left at the great extremity. The stomach was now detached from its peritoneal bands, and the divided peritoneal fold sewed together with catgut. Withal, though the extremities of the stomach and its greater and less curvatures were free, it was found that the diseased mass had a deep attachment that prevented the removal of the viscus and of the neoplasm. Traction from left to right and from right to left was now made on the mass, and it was found that the growth was attached to the pancreas. The body of the pancreas was now freed, most of the vessels of the spleen liberated, and the to-and-fro movements recommenced. The liberated portion of the pancreas was now dissected from the vena cava and removed. A mass of infiltrated ganglia was detached from the aorta. Some difficulty was experienced in arresting the bleeding on section of the pancreas, hæmorrhagic points having to be freely touched with the thermo-cautery, and finally compression by a pad of gauze had to be resorted to.

The first step of the operation—that of excision—was now finished; the second and more difficult step, that of reparation, was now to be commenced. The open extremity of the duodenum was now closed by suturing the different tissues together, like-to-like, and finally the peritoneal tissue closed over by Lembert sutures. By careful placing of the preserved tissue around the cardiac orifice of the stomach, a small cavity, about the size of a hen-egg, was formed. At this period of the operation the alimentary tube was divided into two disconnected parts, so far removed and each so fixed that they could not be drawn together. Catching the jejunum, it was drawn up to the cardiac orifice, and the ampulla formed of portion of the stomach was fixed in it as in an ordinary case of gastro-enterectomy. The ampulla looked like a reversed V, the apex being at the œsophagus, and the other extremity being fixed in the jejunum. The operation was now practically finished.

It was found necessary to retain the compress on the cut pancreatic stump, and from it a lamp-wick-like fold of gauze was brought out of the cutaneous wound for drainage. The superficial incision was sewn together by ordinary sutures and a few interrupted silver wire sutures. One hour and a quarter was occupied in the operation. During the last fifteen minutes the patient got a hypodermic of caffein and an intravenous injection of five hundred grammes of serum.

Considering the gravity of the operation the sequelæ were good. The highest temperature for the first three days was 100° F. during the sojourn of the patient in hospital; afterwards the temperature

did not exceed 99° F. On the first day after operation the patient got seventeen hundred and fifty grammes of serum, five hundred being given by intravenous injection. On the evening of the second day she vomited blood. Rectal feeding with peptonised food was commenced on the second day. On the third day the tampon of gauze was removed, and a pancreatic fistula followed, which remained for twenty-five days. On the fourth day she took some milk and some weak grog. A little pottage and some milk were taken on the fifth day. The patient remained in hospital for one month, during which time she put on flesh and gained strength. A histological examination confirmed the diagnosis of cancer of the cylindrical epithelioma variety, which invaded the pancreas and the neighbouring ganglia. To-day the patient, nine months after operation, has regained her strength and increased fifty-two pounds in weight. She has a fresh, ruddy colour, and, in a word, is in good health.

This case is interesting from the extent and complexity of the operation, from the good convalescence of the patient, from the freedom of any symptom of the return of the disease, and from the good health she enjoys.

M. Ricard considers that success will follow all similar operations. He affirms that extirpation of a portion of the stomach is practically safe, and refers to his eight cases of pylorectomies with seven recoveries published by M. Guillot in the *Gazette des Hôpitaux* in confirmation. He has the conviction that the excision of cancers of the stomach, in good time—with average skill, with pure asepsis—are less fatal than extirpation of cancers of the uterus or rectum, which all the world practises freely.

It is for the physician to diagnosticate such cases for the surgeon; it is his to recognise the contra-indications for operation which experience has taught him. He will learn to be bold even to rashness. This case is reported from others equally successful that it may encourage physicians and surgeons who hesitate.

A MAN WITH A QUIVERFUL.

A French Canadian living in a Rhode Island town was recently presented by his third wife with his forty-first child. His first wife gave birth to several pairs of twins, and his second presented him with three sets of triplets. Thirty-six of the children are living and many of them have families of their own. Eight of the grandchildren also are parents.

CLINICAL RECORDS.

The Treatment of Dysentery by Intestinal Asepsis. By James R. Wallace, M.D., F.R.C.S.I.; Surgeon to the Home Hospital, Calcutta.

The following cases illustrate the successful treatment of ordinary tropical dysentery, or what should really be styled muco-enteritis, by a simple method of converting a septic alimentary canal into an aseptic one.

The routine was the same in all the cases—namely, the administration of a dose of an emulsion of castor-oil, terebene and opium, morning and evening, 20 drops of liquor hydrargyri perchloridi B.P. every 6 hours, and a copious enema of boro-glyceride in a warm water solution every 12 hours. The diet consisted of light, solid food, not milk slops and soups, with fruit and vegetables given freely.

Case I. (No. 7 in Hospital Case Book).—Mrs.——, a young English woman, aged twenty-six, married, one child two and a half years old, menstruation regular, appetite fairly good, very emaciated and anæmic in appearance. Has been ailing with small bloody mucus discharges from the bowels for three months, and has had from six to a dozen motions every day for the past three weeks. Before that they were not so frequent, though three or four stools of a similar character were voided daily throughout this period. There had been, and was still, considerable pain and tenderness about the bowels and a great deal of tenesmus during defæcation. The patient had lost weight very remarkably during her illness. She was admitted into the Home Hospital on the 6th December, when it was found that the stools consisted of about a couple of ounces of dark green, blood-tinted mucus of a jelly-like consistency. They were of an extremely offensive putrid odour. There was painful tenesmus with each evacuation. There was a distinct tenderness over both iliac fossæ. The liver was tender, but not enlarged; the spleen was normal; the kidneys and urine were healthy; the lungs were healthy; the heart's action was weak; there was slight fever, temperature 100·8°; appetite poor, but there was a slight inclination for solid food and a dislike for slops. She was placed on the above treatment and on solid food, with the effect that within 48 hours the stools had lost their fœtor, and their frequency had been diminished by half, while their character was also altered, there

being a deal of grumous fæcal matter with much less blood and mucus. Within three days more the stools became normal, the appetite was restored, all pain had subsided, the temperature was 98·6° and the patient was practically cured. She was detained in hospital till the 19th December to allow her to pick up, but all medicine was stopped on the 14th.

Case II. (No. 8 in Hospital Case Book).—Mr.———, a Scotch engineer, aged forty-seven, married, who gave evidence of a once robust and well-built frame, but who was now emaciated and cachectic looking, was admitted into the Home Hospital on the 6th December for typical tropical dysentery, from which he had suffered at intervals of a month or so for the past three years. The present attack began about a month ago. He was having 10 or 12 motions in the 24 hours accompanied by great pain and straining while at stool. The motions were very offensive and consisted of glutinous mucus and blood, with occasionally a little liquid fæcal matter. He had slight fever, and his temperature in the afternoon was 102°. This rise of temperature was often preceded by either a sense of chilliness or sometimes a distinct ague fit. He also was subject to a good deal of nausea and often rejected his food. There was no enlargement of his liver or spleen, the lungs and heart were normal, his abdomen was distended, and the whole intestinal area was tender to the touch. He was placed on the antiseptic treatment above described. In addition, 5 grains of quinine were given at 9 o'clock in the morning and 3 o'clock in the afternoon, to combat the evident malarial infection. Within four days the motions assumed a healthy character, consisting of grumous fæcal matter, with only a slight trace of mucus without any blood-tinging or fœtor. There was still occasional nausea after food and some tenderness over the bowel on palpation. There was also a rather marked voraciousness of appetite. Suspecting the lodgment of worms in the gut, he was given 5 grains of santonin with 2 grains of calomel, followed by a double dose of castor-oil emulsion. Within 12 hours he voided a regular nest of lumbrici, made up of no less than 21 small round worms, matted together in the shape of a ball. Next day he passed 5 more worms. All medicine was stopped for 48 hours, and he was then given a tonic of dilute nitromuriatic acid and chiretta. He rapidly gained flesh, and was discharged on the 30th December quite well. I saw him two months later when he visited Calcutta, and learnt that he had had no further bowel trouble, and that he had gained nearly a stone in weight.

Case III. (No. 19 in Hospital Case Book).—Mr.———, a German, aged thirty, four years in India, had an attack of dysentery a year ago, and was treated by me at his own home. He was cured in ten days. He suffered from a similar attack six months later, and was all right again after a fortnight's treatment. On both occasions the antiseptic method was adopted. He was admitted into the Home Hospital on the 27th January, 1899, with copious bloody motions mixed with mucus, and attended with painful tenesmus and tenderness over the bowels. Within 24 hours after the aseptic treatment the motions were completely altered, and he was discharged cured on the 29th January, 1899, three days after admission. He remained in good health for three months in Calcutta, and then proceeded on a voyage to Germany. While at Colombo, he got another attack of hæmorrhagic dysentery, which killed him in three days.

Case IV. (No. 42 in Hospital Case Book).—Mrs.——, an English lady, aged twenty-seven, married, two children, had suffered from dysentery on several occasions in Darjeeling during the past four or five years, each attack lasting about six weeks and confining her to her bed. She had been ill for a week before her admission into the Home Hospital on the 10th April, 1899. She was very pale and thin, and was in great pain. Her bowels were moved almost every 20 minutes, the evacuations being scanty, bloody-mucus, and very offensive. There was also intense retching and vomiting. The whole intestinal area was acutely tender, more especially about the cæcum. There was some tenderness over the liver, but no enlargement. There was slight fever, temperature 101°. A single boro-glyceride enema gave marked relief, while the action of the bichloride and terebene worked an almost immediate change in rendering the motions non-offensive in odour. The fever subsided in 48 hours, and on the third day she had only three movements of the bowels, and these were only slightly tinged with bloody mucus, and consisted chiefly of grumous fæcal matter, largely tinted with bile. On the fifth day the stools were normal, and on the 16th April, seven days after admission, she was allowed to go home, perfectly cured.

CANCER OF THE RECTUM.

Hochenegg says—Do not operate radically if the patient is very weak; if there are metastases; if the mass is firmly anchored in the pelvis; if glandular infection passes beyond the reach of the finger; and if acute obstruction arises.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Edward H. Bennett, M.D., F.R.C.S.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF STATE MEDICINE.

President—Sir C. A. Cameron, C.B., M.D.
Sectional Secretary—Ninian Falkiner, M.D.

Friday, February 16, 1900.

The President in the Chair.

Presidential Address.

Sir Charles A. Cameron, C.B., on taking the Presidential chair, thanked the Council of the Section for having nominated him as President, and the Academy for having elected him. He would give a short historical account of the origin of the Section. They all were aware that the Academy was formed in 1882 by the amalgamation of the Medical, Surgical, Pathological, and Obstetrical Societies. At that time there was in existence a Society of Metropolitan Officers of Health, of which he had the honour of being President. The Society met monthly, and many valuable papers were read before them, and they had an annual dinner. He suggested that, as the various Medical Societies were being amalgamated, it would be desirable that their Society should enter into the Union under the title of Section of Hygiene. There was considerable opposition to this proposal, on the grounds that it would unduly increase the number of sections, but ultimately the proposal was adopted in a modified form, and a Sub-section of State Medicine was constituted. The four Sections were each to have a President, but the Sub-section was to have only a Chairman. Some years subsequently the Sub-section was elevated to the dignity of a Section, and the Chairman was converted into President. He was the first Chairman, and now, after an interval of 18 years, he again filled the highest office, under the title of President. Sir Charles then referred to several topics, including the notification of infectious diseases. He regretted that the Notification of Infectious Diseases Act was not a compulsory one, and he also regretted that so many medical men were opposed to notification. Measles and whooping-

cough were not amongst the diseases enumerated in the schedule of the Act, but sanitary authorities had the power of adding them to the schedule with the assent of the Local Government Board. The Corporation of Dublin had included both diseases in the schedule, but whooping-cough had since been eliminated, as no good had resulted from notification of that disease. Measles was hardly notified in any town save Dublin, but he believed it was desirable that it should be notified. If the sanitary authorities in Ireland had the power of closing schools at the beginning of an epidemic (a power possessed by sanitary authorities in England), epidemics of measles might be checked earlier than they can now be. Notification of diarrhœa was required when these countries were threatened with cholera, but were only scheduled until all danger had passed away. Sir Charles referred to the inquiry now going on in London as regards the use of preservatives in food, and believed that some of them, such as boric acid, if used in moderation, would be useful. It would be better to consume food with a very moderate amount of preservative, which kept the food fresh, rather than food in a state of incipient decomposition, and containing deadly ptomaïns.

Infantile Insanity.

Dr. Walter Bernard read a paper on this subject.

Dr. Conolly Norman said he had listened in vain for any practical suggestion from Dr. Bernard. He had spoken with too much generality. A great deal was heard about "insane predisposition," and it should interest us all, for we all have it. It was a very short and obscure family which did not contain many lunatics. Dr. Bernard had employed another vague phrase in constant use, and to which it was difficult to attach any definite meaning—"judicious training." We were told lately that a British youth leaving a university had about as much education as an eight year old German child. Which system was right?

Dr. Symes said feeble-minded children were very different from idiotic children, but he thought we did not distinguish between the two classes in this country. He thought many of those charged with such offences as causing fires, &c., suffered from some mental defect. In the homes for children to which he was physician he divided all the children into the following six classes:—(1) Ordinary normal children, in health; (2) children physically but not mentally defective; (3) defective and feeble-minded children incapable of attending school; (4) epileptic children; (5) blind and deaf children; (6) idiots and imbeciles.

Dr. Dawson agreed with Dr. Conolly Norman's remarks as to the excess to which the theory of heredity is carried now-a-days. No doubt, in certain cases, there would be no difficulty in making out a neurotic heredity, and in these cases prophylaxis should be employed if possible. He (Dr. Dawson) thought Dr. Symes had missed the point of Dr. Bernard's paper. Dr. Bernard had referred to extreme early infancy.

Dr. Doyle thought self-control was the point needing greatest emphasis. He had seen very marked improvement effected in a case which had been sent to an institution in Holland where the patients are taken charge of by farmers, and where no education is attempted, the patients being chiefly employed in manual labour.

Sir Francis Cruise thought Dr. Bernard's paper one of great importance in directing attention to the mental condition and proper mental training of children. He had seen children of two and three years of age whose mental condition pointed to insanity, and who ultimately proved to be insane. He was strongly convinced that a great many children are insane.

Dr. Little hoped Dr. Bernard's paper was only a preface to a work on the subject. No advance would be made if they were content to deal with generalities. Undoubtedly, a great deal could be done in the training of children who had a tendency to grow up imbeciles. About fifteen years ago a boy came under his notice who was growing up an imbecile. He was sent to an institution near London, and is now an officer in the army.

Sir Charles Cameron referred to the work being done by the London School Board in the training of children with impaired intellects. The children are examined by the Medical Officers of the Board, and special classes have been formed for the purpose of teaching those with mental defects.

Dr. Bernard, replying, said the perceptive faculties do not begin to dawn until the dentition period, and the infant could be ruled and controlled in the same way as an animal. The moment the child is born the doctor should ascertain if it is physically normal. Then the cry, and the movements of the hands and legs, should be watched. Certain rules of guidance should be laid down for the mother and nurse, and so the infant automaton could be taught to observe order.

The Section then adjourned.

SECTION OF MEDICINE.

President—John W. Moore, M.D., President of the Royal College of Physicians of Ireland.

Sectional Secretary—R. Travers Smith, M.D.

Friday, March 9, 1900.

The President in the Chair.

Exhibits.

Dr. Conolly Norman—Cases illustrating the relations of insanity to tabes dorsalis.

Dr. Walter Smith asked if these were looked upon as independent cases of mental derangement complicated by tabes, or as mental derangement a part and parcel of tabes, as he had for a long time regarded tabes dorsalis as a cerebro-spinal condition, and the early development of optic atrophy, ocular paralysis, &c., seemed to point to this idea. He inquired if Dr. Norman had ever seen what he might call cerebral crises—that is, sudden attacks of giddiness, and a tendency to feel as if the whole brain was slipping away.

Dr. W. R. Dawson said that the association existing between tabes and general paralysis showed that the two diseases must have something akin, and that there was no hard and fast line to be drawn between them. Strümpell was of this opinion, and believed general paralysis to be simply cerebral tabes, and this point was borne out by the first of these cases. This patient had at one time excessively exaggerated knee reflexes, which were now completely lost. In cases where tabes complicated general paralysis the tabetic symptoms appeared first with loss of knee reflexes, and as the tabetic symptoms disappeared the knee reflexes recurred. In this case the order of symptoms was reversed.

Dr. Norman, in reply to the inquiry of Dr. Walter Smith as to association of insanity with tabes in these three cases, said that the association in the first case was probably only an accidental one. It might be that cases two and three would some day develop symptoms resembling those of general paralysis, which would bring them into line with those cases seen every day, in which tabes appeared first and then general paralysis. Of course, tabes dorsalis, like every other nervous disease, probably attacked, pre-eminently, those inclined to nervous failure. Referring to general paralysis associated with tabetic trouble, he pointed out that lesions have been traced in general paralysis in every part of

the nervous system from the cortex to the nerves. From time to time they were wont to see the occurrence of cerebral crises, which were remarkably like the other visceral crises, which tended to show that the cerebral trouble was similar to elsewhere. He got from one to three cases per annum of locomotor ataxy which had gone round the Dublin hospitals, and then terminated with him, and turned out to be general paralytic cases.

Replying to Dr. Dawson, the remissions of symptoms gave the first case a peculiar character, and it was to be noticed that there were remissions in the tabetic symptoms as well, although they were not so well marked. The patient was at one time so tabetic that he could not walk at all, but he was now able to walk about.

A Fatal Case of Congenital Bullous Eruption.

Dr. R. H. Kennan read a paper on this subject. [It will be found in Vol. CXIX., page 241.]

Dr. Langford Symes said this case resembled one he saw some years ago, but the bullæ were not so prominent, and it was more a case of violent purpura than this case. It was in a two or three weeks' old child, which died within four or five hours of its admission to hospital. It had been described by German writers as purpura fulminans, and the blood-stained fluid described by Dr. Kennan seemed to point in this direction, but the case he had seen had not so many bullæ, and had far more purpuric marks.

Dr. Walter Smith said that bullæ were produced on the skin under such diverse conditions that it was doubtful how far they were to accept a particular generic word such as pemphigus. He objected to placing a skin affection due to a distinct ætiological factor, say syphilis, under the same name as one not due to a distinct cause. He, therefore, objected to a diagnosis such as syphilitic pemphigus or psoriasis, because it was not possible that psoriasis could be both syphilitic and non-syphilitic. They could say a scaly syphilide. He agreed with Dr. Kennan in the non-syphilitic character of his case. They often saw pemphigus in connection with acute dermatitis, such as erysipelas, and even in ordinary scabies he had seen very large bullæ occur, as well as in cases of neuritis, such as herpes zoster and traumatic affections of nerves. In the class due to unknown causes he would rank cases he would like to apply the term pemphigus to. He would be inclined to define pemphigus as "an eruption of abruptly defined, fragile, thin-walled bullæ, upon a non-inflamed surface, symmetrical, and prone to relapse." They might be content to leave Dr. Kennan's case in the class of those due to an unknown cause,

though the big word tropho-neurosis might please some. Even in cases of ordinary pemphigus of a relapsing sort repeated bacteriological examination had revealed nothing definite.

Dr. Kennan briefly replied.

Notes on a Case Simulating a Perforating Gastric Ulcer.

Dr. W. J. Thompson and Mr. Conway Dwyer described a case of the above. [It will be found in Vol. CXIX., page 252.]

Dr. R. Travers Smith asked if any cause had been found why the coil of the jejunum should have become gangrenous.

Dr. Craig said that so long as liver dulness was present he would hesitate in giving a diagnosis of perforation into the abdominal cavity, though rupture might take place into an abscess on the posterior wall of the stomach without the occurrence of this sign.

Dr. Doyle said that it had not been proved that there was no gastric ulcer in this case, though there was certainly no perforation.

Dr. Kirkpatrick related a recent case diagnosticated as perforated gastric ulcer which had taken place ten hours before being sent to hospital. Although the liver dulness was apparently normal before operation, which was done two hours after admission, a small perforated ulcer was found on the anterior wall, and the contents of the stomach were found in the abdominal cavity.

Mr. Croly spoke.

Dr. Littledale asked if the condition was due to an infarction of the intestine. If there was no adhesion found that might be a possible explanation of the condition. He considered that the mesenteric vessels were not sufficiently examined in such cases.

Dr. Peacocke saw a case under Mr. Gordon's care with acute symptoms like strangulation. They could feel the coil of intestine through the abdominal wall. After laparotomy an almost gangrenous coil of intestine was found, but no bands or adhesions, and the conclusion come to was that a thrombus had formed owing to syphilitic affection of the arteries.

Dr. Parsons said that some eight or ten years ago he had brought before this Section some cases of perforated gastric ulcer coming under his observation while Resident Medical Physician in Sir Patrick Dun's Hospital. He related again some of the particulars of these cases, and observed that he had then emphasised the necessity of early laparotomy in such cases. Personally he knew no point to which he attached more importance in diagnosis than the abolition of the area of hepatic dulness. One other point of importance was a steady increase in the rapidity of the pulse.

The temperature was of no value, as in the worst cases they found subnormal temperature, and in most cases he had seen there was no febrile reaction.

The PRESIDENT (Dr. J. W. Moore) said he remembered a case in the Meath Hospital in which a perforated gastric ulcer produced all the symptoms of empyema, and tapping confirmed this diagnosis. There was also a discharge of pus from the bronchial tubes. The autopsy showed that the abscess was below the diaphragm, which it had perforated.

DR. THOMPSON, in reply, said that in the most recent work on the subject the absence of liver dulness was stated not to be an absolute sign, neither was the absence of hæmatemesis.

MR. DWYER said that an examination had not been made, as the specimen had been mislaid, but he had no doubt that it was due to a thrombus owing to the sharply defined nature of the gangrenous patches and the absence of adhesions. Mr. Treves had described many cases of that kind.

The Section then adjourned.

LITERARY NOTE.

MESSRS. REBMAN, Limited, announce the following new books as just issued :—"The International Text-book of Surgery," by British and American Authors, in 2 volumes, edited by A. Pearce Gould, M.S., F.R.C.S., of the Middlesex Hospital, and J. Collins Warren, M.D., LL.D., of Harvard Medical School. An entirely new "Cyclopædia of Practical Medicine and Surgery," in 1 volume, illustrated, by 70 special contributors, compiled under the editorial supervision of Drs. George M. Gould and Walter L. Pyle, of Philadelphia. "A Text-book of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease," by Dr. Arthur R. Cushny. "The Gross and Minute Anatomy of the Central Nervous System," by Dr. H. C. Gordinier. "Gould's Year-book of Medicine and Surgery for 1900," in 2 volumes (medicine and surgery). The same publishers also announce the following for early publication :—Volume II. of Prof. Deaver's work on "Surgical Anatomy." A new book by Mr. Marmaduke Shield, entitled "The Causes, Consequences, and Treatment of Nasal Obstruction." "A Treatise on the Theory and Practice of Medicine for Students and Practitioners," by Dr. H. W. Syers, of the Great Northern Central Hospital, London.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir J. W. Moore, B.A., M.D. Univ. Dubl.;
P.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For eight weeks ending Saturday, July 14, 1900.

IRELAND.

Twenty-three Town Districts.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending July 14 in the Dublin registration area and the twenty-two principal provincial urban districts of Ireland was 17·3 per 1,000 of their aggregate population, which, for the purposes of these returns, is estimated at 1,062,188. The deaths registered in each of the past eight weeks, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	May 26	June 2	June 9	June 16			May 26	June 2	June 9	June 16	
23 Town Districts	23·3	20·0	19·4	21·0	20·9	Limerick -	25·3	18·2	16·8	15·4	18·9
Armagh -	21·4	28·5	14·3	14·3	19·6	Lisburn -	21·3	25·7	12·8	38·3	24·5
Ballymena	11·3	5·6	11·3	11·3	9·9	Londonderry	17·3	18·8	11·0	20·4	16·9
Belfast -	20·5	19·5	17·9	20·5	19·6	Lurgan -	22·8	27·4	18·2	13·7	20·5
Carrickfergus	17·5	35·1	23·4	5·8	20·5	Newry -	20·1	28·2	8·1	16·1	18·1
Clonmel -	14·6	9·7	19·5	9·7	13·4	Newtownards	5·7	5·7	51·0	11·3	18·4
Cork -	28·4	20·8	24·2	20·1	23·4	Portadown -	12·4	12·4	12·4	18·6	14·0
Drogheda -	22·8	15·2	22·8	11·4	18·1	Queenstown	11·5	28·7	5·7	11·5	14·4
Dublin - (Reg. Area)	25·2	21·9	23·1	23·9	23·5	Sligo -	15·2	15·2	5·1	15·2	12·7
Dundalk -	16·8	12·6	25·1	16·8	17·8	Tralee -	33·6	22·4	11·2	16·8	21·0
Galway -	34·0	0·0	3·8	56·7	23·6	Waterford -	29·8	17·9	11·9	13·9	18·4
Kilkenny -	70·8	28·3	18·9	23·6	35·4	Wexford -	27·1	13·5	22·6	13·5	19·2

Towns, &c.	Weeks ending				Average Rate for 4 weeks	Towns, &c.	Weeks ending				Average Rate for 4 weeks
	June 23	June 30	July 7	July 14			June 23	June 30	July 7	July 14	
23 Town Districts	17·8	20·4	18·4	17·3	18·5	Limerick -	14·0	30·9	18·2	19·6	20·7
Armagh -	0·0	7·1	28·5	14·3	12·5	Lisburn -	4·3	8·5	21·3	21·3	13·9
Ballymena	16·9	33·8	0·0	28·2	19·7	Londonderry	23·6	11·0	29·8	12·6	19·3
Belfast -	18·9	19·8	18·3	15·7	18·2	Lurgan -	31·9	13·7	18·2	9·1	18·2
Carrickfergus	5·8	11·7	5·8	17·5	10·2	Newry -	8·1	8·1	32·2	24·1	18·1
Clonmel -	9·7	14·6	29·2	9·7	15·8	Newtownards	0·0	28·3	17·0	11·3	14·2
Cork -	18·7	21·5	18·7	17·3	19·1	Portadown	24·7	0·0	12·4	18·6	13·9
Drogheda -	7·6	7·6	7·6	22·8	11·4	Queenstown	17·2	23·0	17·2	5·7	15·8
Dublin - (Reg. Area)	17·9	20·0	17·7	18·2	18·5	Sligo -	0·0	15·2	15·2	0·0	7·6
Dundalk -	0·0	41·9	12·6	16·8	17·8	Tralee -	78·3	39·2	11·2	11·2	35·0
Galway -	18·9	49·1	45·3	45·3	39·6	Waterford	17·9	13·9	6·0	17·9	13·9
Kilkenny -	14·2	37·8	37·8	33·0	30·7	Wexford -	18·1	36·1	9·0	18·1	20·3

The deaths from the principal zymotic diseases registered in the 23 districts during the week were equal to an annual rate of 1·2 per 1,000—the rates varying from 0·0 in eighteen of the districts to 11·3 in Galway—the 12 deaths from all causes registered in that district comprising 3 from measles. Among the 108 deaths from all causes registered in Belfast are 2 from whooping-cough, one from diphtheria, 7 from enteric fever, and one from diarrhœa.

DUBLIN REGISTRATION AREA.

In the Dublin Registration Area the births registered during the week amounted to 218—108 boys and 110 girls; and the deaths to 127—65 males and 62 females.

Deaths.

The deaths, which are 21 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 18·9 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions

from localities outside the area, the rate was 18·2 per 1,000. During the 28 weeks ending with Saturday, July 14, the death-rate averaged 31·9, and was 3·2 over the mean rate for the corresponding portions of the ten years 1890–1899.

There were 13 deaths from zymotic diseases, or 3 over the number which took place in the preceding week, but 7 under the average for the 28th week of the last ten years. This number includes 4 deaths from whooping-cough, 3 deaths from cerebro-spinal meningitis, 2 deaths from enteric fever, and one each from simple continued fever and diarrhœa.

Tubercular disease caused 38 deaths—namely, 31 deaths from pulmonary tuberculosis, one from mesenteric disease, 5 deaths from tubercular meningitis, and one death from scrofula.

Diseases of the respiratory system caused 20 deaths, which number is 5 in excess of those occurring in the preceding week, but one under the average number for the 28th week of the last ten years.

Convulsions caused 5 deaths—2 in children under one month, 2 in children over one month and under one year, and one in a child 2 years of age. Three deaths were due to apoplexy, and 3 deaths to other diseases of the brain and nervous system.

Five accidental deaths and one death from suicide were registered.

STATE OF INFECTIOUS DISEASE IN DUBLIN.

(1.) Cases of Infectious Diseases Notified to the Public Health Committee of the Corporation.

Sir Charles A. Cameron, C.B., Medical Superintendent Officer of Health for the City of Dublin, has furnished the following information regarding the number of cases of Infectious Diseases in the City of Dublin, notified under the "Infectious Diseases (Notification) Act, 1889":—

Week ending	23rd June,	...	...	50 cases.
,,	30th June	...	...	38 cases.
,,	7th July,	...	...	61 cases.
,,	14th July,	...	...	66 cases.

Of the 66 cases notified, 21 were erysipelas, 17 enteric fever, 13 scarlatina, 6 measles, 2 meningitis,[a] and 7 continued fever.

[a] This disease has been placed upon the list of compulsory notifiable diseases by the Public Health Committee of the Corporation, from the 9th of May for a period of four months, upon the recommendation of Sir C. Cameron, C.B.

(2.) Cases of Infectious Diseases under Treatment in Dublin Hospitals.

Twelve cases of scarlet fever were admitted to hospital, 9 were discharged, and 62 remained under treatment at the close of the week. This number is exclusive of 19 patients in Beneavin, the Convalescent Home of Cork-street Fever Hospital.

Ten cases of enteric fever were admitted to hospital, and 10 cases were discharged, leaving 40 under treatment at the close of the week.

One case of typhus fever was admitted to hospital, and 3 cases remained under treatment at the close of the week.

Four cases of diphtheria and 12 cases of measles also remained under treatment; no death from the above-mentioned diseases occurred in hospital during the week ending July 14th, 1900.

ENGLAND AND SCOTLAND.

The mortality in thirty-three large English towns, including London (in which the rate was 14·2), was equal to an average annual death-rate of 15·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·2 per 1,000, the rate for Glasgow being 17·4, and for Edinburgh 18·1.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of June, 1900.

Mean Height of Barometer,	29·878 inches.
Maximal Height of Barometer (1st, at 9 a.m.),	30·426 „
Minimal Height of Barometer (24th, at 9 p.m.),	29·371 „
Mean Dry-bulb Temperature,	57·6°.
Mean Wet-bulb Temperature,	54·2°.
Mean Dew-point Temperature,	51·1°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·374 inch.
Mean Humidity,	79·6 per cent.
Highest Temperature in Shade (on 15th),	71·6°.
Lowest Temperature in Shade (on 23rd),	47·2°.
Lowest Temperature on Grass (Radiation) (on 2nd),	42·5°.
Mean Amount of Cloud,	69·2 per cent.
Rainfall (on 22 days),	3·169 inches.
Greatest Daily Rainfall (on 20th),	·521 inch.
General Directions of Wind,	W., S.W.

Remarks.

Opening with anticyclonic conditions and fair, though cool, weather, June, 1900, belied its early promise and proved extremely unsettled, showery, and thundery. The mean temperature was, indeed, about one degree Fahrenheit above the average, but the amount of cloud was large (69·2 per cent.). Bright sunshine prevailed for only 158 hours, and torrential showers fell on many consecutive days, being frequently accompanied by thunder and lightning. Midsummer's Day, Sunday, the 24th, was inclement in the extreme, a downpour of rain accompanied by south-easterly to south-westerly gales being experienced in Ireland.

The rainfall in the city (3·169 inches) and in the Phœnix Park (3·700 inches) was much heavier, though not more frequent, than that at Killiney (2·29 inches) and in the Co. Wicklow (Greystones, 1·810 inches; Newcastle. 2·149 inches). This depended on the direction of the prevalent winds (W. and S.W.) and on the fact that the rainfall was made up of "splashes" rather than of "soaks."

In Dublin the arithmetical mean temperature (58·9°) was above the average (57·8°) by 1·1°; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 57·6°. In the thirty-five years ending with 1899, June was coldest in 1882 (M. T.=55·8°) and in 1879 ("the cold year) (M. T.=55·9°). It was warmest in 1887 (M. T.=62·3°); in 1896 (M. T.=61·4°); and in 1899 (M. T.=61·3°).

The mean height of the barometer was 29·878 inches, or 0·039 inch below the corrected average value for June—namely, 29·917 inches. The mercury rose to 30·426 inches at 9 a.m. of the 1st, and fell to 29·371 inches at 9 p.m. of the 24th. The observed range of atmospheric pressure was, therefore, 1·055 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 57·6°, or 5·7° above the corresponding M. T. for May, 1900. Using the formula, *Mean Temp.* = *Min.* + (*Max.*—*min.* × ·465), the value was 58·4°, or 1·2° above the average mean temperature for June, calculated in the same way, in the twenty-five years, 1865–89, inclusive (57·2°). The arithmetical mean of the maximal and minimal readings was 58·9°, compared with a twenty-five years' average of 57·8°. On the 15th the thermometer in the screen rose to 71·6°—wind, S.W.; on the 23rd the temperature fell to 47·2°—wind, N.W. The minimum on the grass was 42·5° on the 2nd.

The rainfall amounted to 3·169 inches on as many as 22 days. The average rainfall for June in the twenty-five years, 1865–89,

inclusive, was 1·817 inches, and the average number of rainy days was 13·8. The rainfall, therefore, and the rainy days were far above the average. In 1878 the rainfall in June was very large—5·058 inches on 19 days; in 1879, also, 4·046 inches fell on 24 days. On the other hand, in 1889, only ·100 inch was measured on 6 days. In 1887, the rainfall was only ·252 inch, distributed over 5 days. In 1899, 1·643 inches fell on only 8 days.

High winds were noted on only 3 days, and the force of a gale was attained only on the 24th. The atmosphere was foggy on the 5th. Solar halos were seen on the 3rd and 4th. Temperature reached or exceeded 70° in the screen on only 2 days, compared with 17 days in 1887, only 1 day in 1888, and 14 days in 1899. Thunderstorms occurred on the 6th, 12th, 13th, 14th and 19th. Thunder was heard on the 7th, and lightning was seen on the 5th, 11th and 25th. Hail fell on the 14th.

The rainfall in Dublin during the six months ending June 30th amounted to 13·090 inches on 14 days, compared with 11·295 inches on 95 days in 1899, 12·115 inches on 98 days in 1898, 13·950 inches on 113 days in 1897, 7·854 inches on 84 days in 1896, 12·282 inches on 80 days in 1895, 14·361 inches on 109 days in 1894, 9·624 inches on 78 days in 1893, 11·770 inches on 97 days in 1892, 8·748 inches on 77 days in 1891, only 6·741 inches on 67 days in 1887, and a twenty-five years' average of 12·313 inches on 95·4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was only 1·810 inches on 21 days. Of this quantity ·220 inch fell on the 12th and again on the 21st. The total fall since January 1 has been 18·191 inches on 105 days, compared with 19·510 inches on 95 days in the first six months of 1899, 13·500 inches on 88 days in those of 1898, 18·125 inches on 106 days in those of 1897, 7·356 inches on 61 days in the same period of 1896, 14·270 inches on 67 days in 1895, 17·381 inches on 96 days in 1894, and 11·776 inches on 75 days in 1893.

The rainfall at Cloneevin, Killiney, Co. Dublin, amounted to 2·29 inches on 23 days. The greatest fall in 24 hours was ·27 inch on the 24th. The average rainfall for June in the 15 years, 1885–1899, was 1·750 inches on 12·4 days. In 1897, 3·59 inches fell on 20 days, in 1898, 2·03 inches fell on 15 days, in 1899, 2·47 inches fell on 10 days. Since January 1st, 1900, 13·82 inches of rain have fallen at this station on 113 days, compared with 13·10 inches on 97 days in the corresponding six months of 1898, and 13·62 inches on 89 days in the first half of 1899.

At the National Hospital for Consumption, Newcastle, Co.

Wicklow, the rainfall was 2·149 inches on 22 days, compared with 3·748 inches on 8 days in June 1899, 2·459 inches on 14 days in June, 1898, and 4·078 inches on 15 days in June, 1897. On the 22nd, ·336 inch was measured. The maximum temperature in the shade was 69·1° on the 15th, the minimum temperature in the shade was 45·0° on the 1st. At this station the rainfall for the six months ending June 30 amounted to 16·904 inches on 103 days, compared with 18·639 inches on 91 days in the first six months of 1899, 14·918 inches on 88 days in the same period of 1898, and 18·372 inches on 102 days in that of 1897.

At the Railway Hotel, Recess, Connemara, Co. Galway, the rainfall in June, 1900, was as much as 7·676 inches on 22 days, the measurement on the 24th amounting to 2·210 inches. The month was very wet and boisterous at that station, and a south-westerly gale of great violence occurred on the 24th—Midsummer's Day.

TREATMENT OF APPENDICITIS.

M. Broca (*Rev. Med. de Paris*).—Absolute rest, opium internally, ice over iliac fossa, injections of sweet oil, and rectal feeding in severe cases. M. Broca does not recommend operation until it is plainly indicated. From 1892 to 1895 he operated on all cases of appendicitis on their admission. Of his 67 cases, 45 were cured and 22 died, showing a mortality of 33 per cent. In 1896 the influence of Jalaquier cooled his ardour for operation, and he temporised, even in severe cases, with the result that of 27 cases he lost but 4, reducing the mortality to 13⅓ per cent. In 1897, following the same practice, he had 28 cases with 3 deaths—a mortality of 10·7 per cent. In 1898 the mortality rose, for of 16 cases he lost 3—a death-rate of 18·8 per cent. The following year (1899) the death-rate fell to 10·8 per cent.—37 cases being treated with a loss of only four patients. The marked increase in the mortality in 1898 M. Broca ascribes to the fact that the patients on admission were in a hopeless condition. He notes that in the same hospital during the same year 28 cases were operated on, the death-rate reaching 50 per cent.

PERFORATING TYPHOID ULCER.

J. E. Platt says the incision should be made on the right side, the ulcer inverted without cutting away its edges, the abdomen flushed, and a drain inserted.

PERISCOPE.

EPITHELIOMA OF THE FACE IN A YOUNG SUBJECT.

At a meeting of the Société des Sciences Médicales de Lyon, M. Jermier presented a patient with epithelioma of the cheek bone, which necessitated operation. This subject was brought before the medical profession in a thesis by M. Goy (Lyon, 1898), "Epithelioma of the Face in Young Subjects." The disease in the case of this patient commenced as a pimple on the right cheek bone when he was thirteen years of age. From time to time the patient rubbed and scratched the pimple until it became an open sore. This sore gradually became larger, until it was as large as a sixpenny piece. It neither got smaller nor bigger until he was called up as a conscript, when he was transferred to Saint Etienne, and put on a course of treatment (arsenical). He entered the Hotel Dieu de Lyon in July, 1898, with an ulcer on the right cheek bone as big as the palm of the hand. It gave off a disagreeable smell, was sanious, tumid, and rigid. Its borders were hard, with deep overhanging edges. On the suspicion of syphilis the patient was treated with iodide of potassium, hypodermics of calomel, and mercurial frictions. He notably lost flesh; but there was no sign of any improvement in the ulcer. In December an attack of periostitis of the upper jaw bone of the right side was treated by a free section, which extended to the external angle of the eye. To cover the surgical wound, two flaps were taken from the neck, and a third from the temporal region. After fixing these flaps in position there still remained uncovered about the size of a five-franc piece, which was allowed to granulate a portion of the wound and cicatrise. The microscope showed that the ulcer consisted of epithelial cancer. Fourteen months afterwards there was a slight return of the disease, and the contraction of tissue due to the cicatrisation had caused ectropium. A plastic operation cured the ectropium, and the hairs which grew on the flaps brought from the neck were destroyed at their roots by electrolysis.—*Lyon Médical.*

CONGENITAL ATROPHY OF THE BICEPS.

At a meeting of the Sociéte Nationale de Médecine de Lyon, M. Bernard presented a soldier having congenital atrophy of the biceps of his right arm. He had suffered from malaria in Crete and Tonkin, for which he received the classic treatment—quinine—and

quickly got well. During his life in the army the lesion was never detected, and it in no way interfered with the movements of the forearm, although the muscle was represented by nothing but a thin tendon. M. Bernard considers that the atrophy is due to a central nervous lesion. Professor Pestort, who also examined the patient, accepts M. Bernard's view as to this opinion.—*Lyon Médical.*

CONDITIONS SIMULATING APPENDICITIS.

Dr. Janeway (*Medical Record*) at a meeting of the Practitioners' Society, New York, enumerates the following conditions which may be mistaken for appendicitis:—(1) Neuralgia affecting the lower abdominal nerves on the right side; (2) pneumonia or pleurisy of the right side; (3) renal colic of the right side; (4) hydronephrosis of the right side; (5) movable kidney of the right side; (6) perforation of latent duodenal or other intestinal ulcers; (7) tuberculous ulcers of the cæcum; (8) cancer of the cæcum; (9) fæcal impaction; (10) narrowing of the hepatic flexure of the colon; (11) typhoid fever in its beginning or during a relapse; (12) follicular tonsillitis; (13) salpingitis; (14) sapræmia. These cases sufficiently illustrate the need of careful thought lest we fall into the error of considering every case with pain and tenderness in the right iliac fossa as appendicitis.

POST-PARTUM HÆMORRHAGES, CURED BY SIMPLE DRAINAGE AND FOLLOWED BY PSYCHOSES.

We can admit, says C. Zalackás, a post-puerperal psychosis. The psychoses following gynæcological operations are very exceptional, and when they exist we usually have to do with women predisposed or already affected with insanity. There is no connection between the psychoses and the operative procedure. Psychic troubles can be produced as well after any other operation as after ovarian castration. The operation never of itself produces madness. There exists a psychic state before operation called phobia, which may persist after the operation. In psychoses at precocious menopause a certain predisposition is at work. The fear of mental perturbation should not deter one from operating when the indications are clearly present.—*Le Progrès Médical.*

OPERATION IN GASTRIC ULCER.

Bidwell says operation in gastric ulcer should be done (1) in all cases of perforation at the very earliest possible moment—also in subphrenic abscess; (2) in cases of hæmorrhage (*a*) when there is continual oozing of blood, especially if the stomach be dilated, and

(*b*) in cases of repeated severe hæmorrhage; (3) in cases in which there is severe pain and vomiting unaffected by treatment, and which is producing progressive emaciation; (4) in case of dilatation of the stomach from contraction within or from adhesions outside the stomach.

BATHING IN THE TYPHOID FEVER OF CHILDHOOD.

E. Ausset (*Journal de Médecine de Paris*) finds a series of cases in children more severe than the adult form. He never finds at autopsy in an infant typhoid which has escaped recognition during life. In forty-five cases there were four before the fifth year, twenty-nine between five and twelve years, and twelve between the twelfth and fifteenth years, with two deaths in each series. The author believes in systematic bathing from the very onset; the temperature should be regulated for each case; the younger the child the less cold is the bath. It is unnecessary to give baths as cold as the pure Brand method calls for.

AN ATAXIC INFANT.

At a meeting of the Société des Sciences Médicales de Lyon, M. Lévy presented (in the name of M. Lannois) a young child of three years and a half old. The infant was born in the Charité. Its antecedents were imperfectly known. The mother had no sign of syphilis, and the labour was natural. Trembling of the muscles appeared at two years of age. The upright position could not be retained by the child unless there was something to hold by. When moving, the limbs were kept widely apart, and were jerked irregularly; at the same time the superior extremities were constantly moving in a tremulous manner. When walking the patient moved as if drunk, the legs wide apart, and feet seemed to clutch the ground as they were placed on it. There was no loss of muscle force, only the troubles of sensation. Divergent strabismus and nystagmus were present on both sides. The knee-reflexes were exaggerated; there were no contractures, and the sphincters were normal. The patient presented all the phenomena of cerebellar ataxy of Babinski. M. Lannois considers the phenomena were due to an arrest of the development of the cerebellum, followed by atrophy during extra-uterine life.—*Lyon Médical.*

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MEDICAL SCIENCE.

SEPTEMBER 1, 1900.

PART I.

ORIGINAL COMMUNICATIONS.

ART. VIII.—*The Maternal Mortality in Childbed.*[a] By WILLIAM J. SMYLY, M.D., F.R.C.P.I., Vice-President of the Royal College of Physicians of Ireland; Gynæcologist to the Adelaide Hospital, Dublin.

As the century draws to its close a retrospect is not only excusable but advisable. At such a time we naturally pause to consider the way we have come, how we differ from our predecessors, and what we have gained in these hundred eventful years. Periodical literature is full of such retrospects—our modes of life, the discoveries of science, means of locomotion, and methods of warfare, are contrasted with those of 1800, and the verdict is that in the present century a greater advance has been achieved than in all that preceded it. Medicine and surgery have shared to the full in the advance of this wonderful age; and it now falls to my lot to show how midwifery has participated in the general improvement.

In considering the history of midwifery many subjects suggest themselves which would offer ample material for an address in obstetrics.

The struggle between science and nescience, as represented by medical practitioners and midwives, commenced

[a] Being the Address in Obstetrics at the Annual Meeting of the British Medical Association at Ipswich, July-August, 1900.

in the sixteenth century, was fought in every civilised country with varying fortune, and continues in our own time to be a burning question.

The contest between Radicals and Conservatives, or those who incline to operative interference and those who rely more exclusively on Nature, are as fully represented amongst us here to-day as they were in the days of Levret and Smellie, of Boër and Osiander.

The rise and fall of lying-in hospitals, their almost total extinction and resuscitation in our own time, have no parallel in medical history. To have closed these institutions would have been the sealing of the fountain of knowledge at its very source, yet few could deny that Simpson was actuated by the highest motives of humanity in the campaign which he carried on against them.

The development of obstetrical literature, the origin and development of obstetrical and gynæcological societies, national associations, and international congresses, each and all of these would have offered ample material. I have preferred, however, a subject much more familiar, and often dealt with, but at the same time of much greater importance than any other that could be chosen—namely, the maternal mortality in childbed.

THE FAILURES OF THE EARLIER PART OF THE CENTURY.

The history of obstetrics is a long one, extending back to the earliest times. The Hebrew scriptures abound in obstetrics, and midwives as a class are distinctly mentioned therein. A knowledge of the art existed amongst the Indians, Greeks, and Romans, and later amongst the Arabians, but scientific midwifery may be said to have commenced with Ambroise Paré in the sixteenth century. During the intervening years up to the present time it has been advanced by ardent and zealous investigators, many of whose names can never be forgotten—Mauriceau, Deventer, the Chamberlains, Levret, Baudelocque, Sir Fielding Ould, Smellie, William Hunter, Boër, Naegele, the Ramsbothams, Sir James Simpson, Mathews Duncan, Robert Barnes, and a host of others too numerous to mention. But in considering the improvement in the death-rate in childbed we need not go back many years. It did

not take place gradually as the light of science slowly dawned upon our art, but occurred suddenly in the seventh decade of the present century. The observers of the past pursued their object in the face of failure little short of disaster; their zeal and perseverance were not rewarded by success, but, on the contrary, the more famous the professor, the wider his field of observation, the greater his industry, and the more searching his investigations, the worse were his results. In the first half of the present century the mortality amongst parturient women, especially in hospitals, was probably greater than in any other period of the world's history.

THE DECLINE OF MORTALITY IN LYING-IN-HOSPITALS.

Towards the close of the Seventies, however, a sudden and salutary change took place. In the Paris Maternity, for example, the mortality dropped in one year from 8 per cent. to 4 per cent., and in 1881 to 1 per cent., and has since improved, and in all the hospitals of Europe a similar change occurred. As to private practice, however, I am not able to give any facts founded upon reliable statistics. Dr. Mathews Duncan, in his monograph on mortality in childbed published in 1870, deliberately stated that "all attempts at ascertaining scientifically the mortality in childbed must be given up." Dr. M'Clintock also said about the same time: "With our great registering machinery all at work we cannot find out what is the mortality of childbed in London. For my part I think that obstetrical common sense will be well contented if the true childbed mortality of modern London is at all less than in London of 1660. It is very doubtful if it is even now as low as 1 in 107."

Mathews Duncan after careful investigation agreed with M'Clintock that the mortality in private practice was not less than 1 in 120. His own results were 1 in 105, M'Clintock's 1 in 108, Dr. Churchill's 1 in 159. In the face of such results in the hands of the best men it is idle to talk of the general mortality having been at that time 19 per 10,000. In comparing the results, therefore, of modern with ancient practice, we must confine ourselves to hospital statistics, and I have no doubt that the results in

private practice are a faithful reflection, perhaps some years later, of the teaching in those institutions.

STATISTICS OF THE ROTUNDA HOSPITAL.

I will take as an example, for the purpose of contrasting, the results obtained in the Rotunda Hospital during Dr. Johnston's Mastership, 1870-1876, and during the seven years, 1890-1896. I have chosen Dr. Johnston's report because it was the period immediately preceding the introduction of antiseptics, and because his results were considered at the time to have been remarkably good. During the first period (1870-1876) 8,092 women were delivered in the hospital, of whom 169 died, or 1 in 48. During the second period (1890-1896) 9,085, with 50 deaths, or 1 in 181·7; showing a saving of about 200 maternal lives in every 10,000 deliveries.

If we adopt the classification of the Registrar-General the deaths appear as due to:—

——	1870–1876	1890–1896
1. Septic Infection	8·91 in 90·9	10·1 in 908·5
2. Accidents of Childbirth	46·1 in 176	24·1 in 378
3. Unconnected with Childbirth ...	34·1 in 238	16·1 in 468

Similar results are shown by hospitals generally. It is evident, therefore, that in hospitals at least a marked improvement has taken place during the past quarter of the century in all the three groups: deaths from puerperal fever, accidents of labour, and other causes.

PUERPERAL FEVER OR SEPTIC INFECTION.

The greatest improvement is observable in this group, and I shall offer no apology for dwelling at length upon the way in which this has been brought about.

In the beginning of the century obstetricians were ignorant of the nature of this, the chief cause of childbed mortality, and were helpless either to prevent or cure it. Epidemics became more frequent and more virulent; and

obstetricians endeavoured by clinical observation and *post-mortem* examination to discover its nature; but unfortunately both these roads to knowledge were pursued by the same individuals, and with disastrous results. In Paris, Cruveilhier, the most illustrious of French pathologists, was appointed physician to the Maternity; he multiplied his researches, and at the same time the mortality in that institution increased. Little of value was added to our knowledge by these investigations, and even in 1872 Dr. Churchill reflected the general ignorance when he published in the sixth edition of his well-known work his opinion that puerperal fever was due to mental emotion, cold, putrefaction of portions of retained placenta, gastro-enteric irritation, the state of the atmosphere, epidemic influences, and contagion. With regard to the last he felt compelled, by the evidence, to admit the possibility of its being conveyed and communicated or excited by those who had attended midwifery cases after being employed in dissection or *post-mortem* examination, or who were much in contact with fever patients, but in all other cases he attributed its occurrence to epidemic influence.

It is pleasant to turn from this general ignorance, and mark the first beams of the dawning day.

Dr. White of Manchester.

Towards the end of the last century a remarkable work on the management of pregnant and lying-in women was published by Dr. White, a surgeon practising in Manchester. In that work, published in 1791, he attributed puerperal fever to the absorption of putrid matter by the lymphatics and vessels of the womb. To this conclusion he arrived by observing the similarity, in causation and symptoms, in putrefactions occurring in other parts of the body. In chronic abscess, for example, dangerous symptoms, similar to those of puerperal fever, set in after it had been opened and the air had gained admission; so also in childbed, fever did not occur until after the child was born. He further observed that when a putrid wound was cleansed, the symptoms abated; and that where the disease was so situated that it could be removed by amputation they entirely disappeared—and from this he

concluded that absorption of putrid matter was the cause of puerperal fever.

His treatment was therefore directed towards the prevention of putrefaction and elimination of putrid matter should it have already formed. To these ends he advocated thorough ventilation, cleanliness, and drainage. Foul stagnated air, human effluvia, heat and moisture, were to be avoided. Free and even cold air should pervade the apartment, and clean linen be supplied every day. The lochia, if permitted to stagnate in the vagina, would soon become putrid, for, he said, it is well known that the mildest humours in the human body, if suffered to stagnate, become acrid as soon as the air has access to them. He therefore encouraged his patients to sit up several times a day, and even to leave their beds, so as to prevent a lodging of offending matter either in the vagina, uterus, intestines, or bladder. Perhaps the most remarkable statement in this work is the following: "I must not omit to mention," he says, "the good effects I have experienced from emollient or antiseptic injections into the uterus by means of a large ivory syringe or an elastic vegetable bottle in those cases where the lochia have become acrid or putrid, and by being absorbed into the circulation have served as a constant fomes to the disease. I have by this means known the fever much assuaged, and in many cases wholly extinguished, for though the quantity of the lochia is not to be much regarded, the quality of this discharge is a matter of infinite importance." One cannot but wonder at White's independence of opinion and the general correctness of his views. He was only a provincial surgeon, yet he did not shrink from stigmatising the teaching of the obstetric world of his day "as a set of pernicious maxims and opinions, built upon ignorance, and supported by prejudice and obstinacy." With truth he declared that the slightest remark drawn from real observation is of more utility than the most extensive theory of causes drawn from hypothesis alone. Ignorance, prejudice, obstinacy! these were the forces against which he combated, and, alas! in vain, nor for fifty years after did another champion take the field against them, to perish in the encounter.

IGNAZ PHILIPP SEMMELWEIS.

That champion was Ignaz Philipp Semmelweis. With what feelings of regret and shame should we recall his name! Not long ago obstetricians in every land combined to raise a memorial to it. But during his sad life no such recognition of his virtues smoothed his thorny road. Of us it may well be said "Your fathers killed the prophets, and ye build their sepulchres." Had they but learned of him, instead of ridiculing, opposing, and neglecting him, how different would have been the history of obstetrics in the past half century! Obstetricians would have led the van, and have taught the surgeons antiseptic methods; but the contrary has been the case, and surgeons have taught us what Semmelweis strove to teach our fathers twenty years before. What an amount of human life would have thus been saved, what untold anguish and remorse might then have been avoided; but ignorance, prejudice, and obstinacy prevailed.

In 1846 Semmelweis, a young man of 28, was appointed assistant to Professor Klein in the maternity department of the Vienna Hospital. Not only was his sensitive nature shocked by the fearful mortality which prevailed in that portion of the department attended by the students, but his observant mind was also struck by the more favourable results obtained in the neighbouring department reserved for the instruction of pupil midwives. Reviewing the history of the institution, he found that from 1784 to 1822 the physicians connected with it performed no *post-mortem* examinations, and that the average mortality during that period was 1·25 per cent.; from 1825 to 1833 *post-mortem* examinations were made, and the mortality increased to 5·3 per cent. In 1839 the clinic was divided into two departments, and the second was reserved for pupil midwives; the mortality in it fell at once to 2·6 per cent., whilst in the other, where the students attended, it increased to 9·5 per cent., and this proportion remained the same for the five succeeding years, excepting the years 1841-43, when during an epidemic of twenty months' duration the mortality in the first department averaged 16 per cent., and at one time rose even to 31·3 per cent. At the *post-mortem* examination of his colleague Kollitshka,

who died of septic poisoning, Semmelweis was so struck by the similarity between the appearances in that case and in the patients who died from puerperal fever, that he concluded that the cause must be the same in both—namely, an infection from without, due to the transportation of cadaveric poison by the fingers of the attendants, and he directed that before attending lying-in women they should wash their hands in a solution of chloride of lime. The mortality at once sank to 3·05 per cent. Subsequently, however, he formed the opinion that any organic substance in course of putrefaction, and especially the discharges of women with septic diseases, and even air charged with putrefactive matter, might cause fever; and from this time the hands were disinfected in every case, as well as instruments, and the materials used in cleansing the patients, and the sick were separated from the healthy. The mortality fell to 1·27 per cent. Having been defeated, by the intrigues of his colleagues, whose animosity he had aroused, in his candidature for a Professorship in Vienna, he went to Buda Pesth, where he filled the office of Senior Physician to the Rochus Hospital for a period of six years, and under his administration the mortality in that institution averaged only 0·85 per cent. Having again been unsuccessful in his candidature for the Professorship in Prague, he retired from practice and devoted his energies to publishing his great discovery in a work on the "Nature and Prophylaxis of Puerperal Infection."

The story of Archimedes springing from his bath and rushing forth shouting "Eureka, eureka!" is a comedy in science, but the history of this man urging his great discovery upon those who received it with indifference or hostility and ridicule, stopping the passers in the streets to impress on them the importance of life-saving truths which they would not receive—this forms a tragedy fit to make the angels weep. In these endeavours he fretted and fumed his life away, until at last reason departed and he was consigned to the lunatic asylum in Vienna, where four years later he died from septic poisoning, that very disease which he spent his life in combating. Semmelweis discovered the same truth as White had done fifty years before—that putrefaction was the cause of puerperal fever,

but he added another and much more important one—namely, that the disease could be conveyed to the patient by her attendants. These two methods he termed auto- and hetero-infection.

ANTISEPTICS.

Long before Semmelweis fretted himself into insanity he might have discovered, had he had patience to observe it, that the seed he was sowing had already taken root and would soon bear abundant fruit. Michaelis and Lange had adopted his views with success. Simpson warmly advocated them in this country, and pointed out their applicability to operative surgery. The wonderful discoveries of Pasteur were published two years before his death, and these discoveries not only confirmed his views, but placed them upon a firm scientific footing. Lister was already in the field in 1864 and astonished the world by the wonders of antiseptic surgery. But it was not until 1870 that antiseptic principles were applied to obstetric practice, and practically banished puerperal fever from our hospitals. Stadfeld, Bishoff, Fritsch, Schroeder, Breisky, Lucas Championnière were the pioneers in this movement. At first Listerian methods were closely followed, but not only was the original system too cumbrous for general practice, but it was soon discovered that many of its details might with advantage be abandoned.

THE DOUCHE.

The spray was replaced by the douche, and the vagina was douched with antiseptic fluids before and after every labour. Soon the uterus was also included in the process, and prophylactic douching reached its climax when permanent irrigation or instillation was introduced by Schücking. Soon, however, serious accidents and even deaths, the result of the douche, began to multiply. These were due to injection of air and antiseptic fluids into the veins. In some cases the uterus was perforated and poisonous fluids were injected into the peritoneal cavity, but, worst of all, the douche proved to be a cause of the very disease which it was intended to prevent. Runge described an epidemic in the Charité Hospital, Berlin, in which the mortality

remained at 3·8 per cent. so long as prophylactic douching was employed, but immediately sank to 0·39 per cent. upon its abandonment. Breisky reported a similar experience. In a series of papers, in the "Archiv für Gynæcologie," Professor Leopold clearly showed that by thoroughly disinfecting the external parts and avoiding unnecessary examinations far better results were obtainable than by prophylactic douching. In 1888, however, in consequence of the results of bacteriological examination of vaginal discharges he returned to vaginal douching; immediately the morbidity increased by 3 per cent. The next year he again gave up the irrigator, and this was followed by an improvement of 9 per cent. I need hardly explain that by morbidity is meant a rise of temperature, even once to 100·4° F. The whole question of the value of prophylactic douching—and it can hardly be said to have been finally settled even yet, for many leading obstetricians both in this country and abroad still resort to it—resolves itself into the probability or even possibility of auto-infection. That the vaginal discharge often contains germs, many of which are apparently aseptic or saprophytic, is undeniable, but are these germs really dangerous to the patient, and can they be removed by antiseptic measures? These are the two important questions. In 1888, Winter examined the discharge in twenty women, and found twenty-seven varieties of micro-ogranisms. In 50 per cent. of these women he found streptococci and various saprophytes, though in an attenuated condition. In 1890 Streffeck made a similar series of experiments, and found pathological organisms in nearly the same proportion of cases. He therefore advocated vaginal douching. Doderlein's investigations in the same direction led him to classify discharges as normal and pathological. The normal were of a creamy consistence, intensely acid in reaction, and contained usually a pure culture of an organism which he named the vaginal bacillus, and to which he attributed the acidity of the discharge. The pathological discharge was of thinner consistence, often puriform in appearance, was feebly acid, neutral or even alkaline in reaction, and contained a great variety of micro-organisms, some of which were dangerous. The normal discharge he discovered to

be not only innocuous but actually antiseptic. He injected into the vagina of a virgin a culture of staphylococcus, and found that in the course of forty-eight hours this organism had entirely disappeared. From these and other experiments he concluded that where the discharge was normal vaginal douching was unnecessary, but on the contrary where it was pathological a thorough disinfection of the canal was imperative. Doderlein's investigations were repeated in the same clinic in Leipzig by Krönig. In 56·8 per cent. he found the discharge normal, in 43·2 pathological; but in none of these was it either neutral or alkaline in reaction. He agreed with Doderlein as to the antiseptic properties of the normal discharge, but denied that it was due to the vaginal bacillus, and found on the contrary that the so-called pathological discharges which did not contain the bacillus also possessed a similar bactericidal property. He injected cultures of the Bacillus pyocyaneus, Staphylococcus doré, and even Streptococcus pyogenes into the vagina, and found that they were all eliminated within twenty-four hours. A most important observation with regard to douching was that in cases in which, after injecting the micro-organisms, he at once thoroughly scrubbed out the vagina with a 1 per cent. solution of corrosive sublimate or lysol, they had not entirely disappeared at the end of 36 hours. The douche, therefore, not only failed to dislodge them, but so altered or removed the natural discharges, that for at least 12 hours the normal bactericidal action of the vagina was annihilated. The result of these investigations was that vaginal prophylactic douching was altogether abolished in the Leipzig Hospital, with the result that morbidity was thereby reduced 10 per cent.; the gravity also of the infected cases was less; so that the number of women who were detained in the hospital beyond the tenth day was reduced by one-half. Some of the most distinguished French accoucheurs, whilst admitting the importance of the facts I have mentioned, still adhere to the prophylactic douche, and with good results, but at the same time they point out the absolute necessity for observing perfect asepsis; the external parts of the patient, the hands of the operator, instruments, and even the water must be absolutely pure.

When we remember, however, that this operation, if carried out two or three times every day, must necessarily be entrusted to a nurse, I have no hesitation in saying that the preservation of perfect asepsis, or anything approaching it, will be found in general practice to be absolutely impossible. Where are such nurses to be found? In these countries they are certainly rare, and from personal experience I feel certain that routine douching has been productive of much more harm than good.

THE HANDS OF THE ATTENDANT.

We now come to the attendant, and our attention may be concentrated upon his hands. The teaching of Semmelweis and Sir James Simpson that infection is carried chiefly by the hands of attendants is now the generally accepted opinion. If I were to state that where there had been no handling there would be no septic infection I should not be very far from the truth. Leopold has clearly proved that patients who deliver themselves without any vaginal interference make better convalescences than those who have been examined even with the most scrupulous antiseptic precautions. Experience therefore proves—what bacteriological investigation would lead us to expect—that an absolutely aseptic condition of the hands cannot be insured by any known process, and from this we learn:—

1. To avoid as far as possible septic contamination.
2. To spare no pains to render our hands as innocuous as possible; and
3. To restrict local interference within the narrowest bounds.

The last of these includes not only unnecessary operative interference, but also needless vaginal examinations. We can limit the numbers of such examinations best by substituting for them external manipulations; and, next to antiseptics, I consider this to be the most important advance in modern midwifery. By whom it was introduced or when I know not, but its systematisation and popularity we owe to Pinard, Credé, and Leopold. In 1888 Credé wrote as follows:—"Even the simplest manipulation may cause infection. It should therefore be laid down and taught as

a fundamental principle that internal examination of parturient women should be altogether avoided or restricted within the narrowest possible limits; it can be very well replaced by external examination. To instruct their pupils as thoroughly as possible in this method is the present and future duty of teaching institutions."

DIAGNOSIS BY EXTERNAL MANIPULATION.

By external manipulation we can tell whether the woman is pregnant or not, and the period to which the pregnancy has advanced, the presentation and position of the fœtus; whether it be living, dying or dead, and whether there be one or more children in the uterus. We can also tell whether she is actually in labour or not; and its course and progress may be followed with accuracy. Pelvic deformity is suggested by pendulous abdomen, abnormal mobility, and obliquity of the uterus, especially in primiparæ and in the latter also, excepting hydramnios, hydrocephalic fœtus, and plurality of children, all of which may be diagnosticated by this method. It is an ominous sign, where labour has actually commenced, to find the head still above the brim; and the way in which it enters the cavity is also characteristic. In prolonged labours danger to the mother is indicated by thickening of the upper and thinning of the lower uterine segments; the elevation of the contraction ring and the prominence of one or both round ligaments. External examination is equally useful in the third stage of labour, and its proper conduction depends upon it.

The external examination is then the one chiefly to be relied upon, not only because it is safer, but also because it gives more information to the examiner, and because it is easier and more reliable. Having for many years practised the vaginal examination exclusively, I found it difficult to persuade myself of the truth of the latter assertion; but not only has my own individual experience proved to me that this is so, but in the Rotunda Hospital, where the students are obliged to write down upon the bedcards the result of each examination, I found that mistakes in diagnosis were much more frequent with the vaginal than with the abdominal method. There are two

things, however, which can be made out only by vaginal examination, and these are the condition of the os uteri and a prolapse of the umbilical cord; and if for any reason such as inexperience on the part of the examiner or insuperable difficulties, such as a very fat or rigid abdomen on the part of the patient, the results of the abdominal examination are unsatisfactory, a vaginal examination becomes necessary.

INTERNAL EXAMINATION.

But before each internal examination the practitioner should remember that it is an operation never altogether devoid of risk, and he should be fully persuaded in his own mind as to its necessity. For my own part, I seldom examine internally more than once in the course of a natural labour, and I endeavour to do so as soon as possible after the full dilatation of the os, as indicated by the rupture of the membranes or a change in the character of the labour pains. I need not delay to describe the disinfection of the hands; many excellent methods are in vogue, but thoroughness in carrying it out is of more importance than the selection of any particular method; at the same time in general practice it should be simple as well as efficient.

TREATMENT.

In the treatment of the disease when once established we have also made considerable advances. Local disinfection by antiseptic douching is generally employed, the curette, abdominal section, and ablation of the infected organs have been employed with success, but are hardly in a position for a dogmatic pronouncement upon their value in an address which is not to be followed by discussion. For the same reason I shall not speak of the antistreptococcus serum, but the general treatment with which I have met most success, and which is, I believe, now most generally adopted, is that introduced by Runge in 1886, and consists in cool bathing, nourishing diet, avoidance of internal antipyretics, and free administration of alcohol.

CONCLUSION.

The subject with which I have dealt is no doubt lacking in novelty, and the method an elaboration of the old say-

ing that "meddlesome midwifery is bad," but I have been urged to its consideration by the opinions expressed by Hegar, Boxall, and Cullingworth, that in private practice there has as yet been no improvement. If this be true, or even partially true, it proves that those who undertake the care of parturient women are not yet alive to the responsibilities of their calling, and I have no doubt that a faithful adherence to the principles, the development of which I have briefly sketched, will result in a vast saving of most valuable lives, and will prevent you individually from standing—as many of us have done in the past—helpless spectators of a fatal malady, which an accusing conscience whispers might have been averted.

ART. IX.—*The Teaching of Materia Medica.*[a] By WALTER G. SMITH, M.D., President of the Section of Pharmacology and Therapeutics, British Medical Association, 1900.

IN bidding you a hearty welcome to the meetings of this Section I desire, at the same time, to express my grateful acknowledgment of the honour done me by the Council of the British Medical Association in inviting me to act as your President.

It is 25 years since the Association has held its annual meeting in East Anglia, and I confidently expect that this meeting, convened in the closing year of the 19th century, will be productive of much pleasure and profit to all who take part in it.

The title of our Section is Pharmacology and Therapeutics. When we consider that therapeutics dates from the beginnings of medicine, and that the ultimate aim and meaning of all our medical education and scientific culture is the alleviation of suffering and the cure of disease, does it not seem surprising that it was not until the year 1884 that, at the suggestion of Dr. Whitla, a separate section of therapeutics was instituted at the Belfast meeting?

[a] Being an Address delivered at the opening of the Section of Pharmacology and Therapeutics at the Annual Meeting of the British Medical Association at Ipswich, July–August, 1900.

And I have to note, not only the tardy official recognition of therapeutics, but also the fact that it has not enjoyed fixity of tenure, for, in 1890, at the Birmingham meeting, with its 12 sections, an address on therapeutics was, it is true, delivered by Sir W. Broadbent, but no separate section was allotted to therapeutics, which was tacked on to medicine. Likewise, neither at Newcastle-on-Tyne, in 1893; at Bristol, in 1894; nor at Carlisle, in 1896, did therapeutics find a home for itself.

Dr. T. J. Maclagan presided over the new Section of Therapeutics at the Belfast meeting in 1884, and took as the subject of his address the Methods of Therapeutic Research. In this address he clearly enunciated the limits and utility of the three lines of inquiry which have been followed in the past, and must be pursued in the future—viz.,

1. Experiments on lower animals.
2. Statistical observations of the results of treatment; and
3. Individual observations at the bedside.

TEACHING OF MATERIA MEDICA.

The rise and growth of the science of pharmacology, which was founded by Bichat and Magendie early in the century, has made it plain that all correct appreciation of the mode of action of drugs must be based upon physiology and pathology.

The new departure has gradually leavened our conceptions of therapeutics, and renders the teaching of this branch alike more intelligible to the student and more satisfactory to the teacher.

I well remember the time when attendance upon materia medica lectures was a dreary enough obligation, and the course was to students perhaps the least popular in the entire curriculum.

Comparing the teaching of materia medica and therapeutics 30 years ago with the present time, three features stand out prominently:—

1. The retrogression of descriptive materia medica in its restricted meaning.

2. The establishment of special courses in practical

pharmacy at the Medical Schools, conducted in suitable laboratories.

3. The development of pharmacology in its present acceptation—*i.e.*, the scientific investigation of the modes of action of drugs.

In regard to the place of pharmacology in the medical curriculum, and the best mode of teaching medical students, I heartily join with Dr. Bradbury (Address to Section of Pharmacology and Therapeutics, Portsmouth, 1899) in protesting against undue neglect of what may be termed old-fashioned Materia Medica—*i.e.*, description of the *essential* properties and chemical nature of drugs so far as these elucidate the action of the remedy or its relations to prescribing.

A modern course of lectures on Materia Medica should most certainly be founded on the bed-rock of pharmacology—*i.e.*, physiology, but there is still room—nay, I think necessity—for practical demonstration of the physico-chemical properties of drugs, and we need not even be ashamed of inculcating the utility of some familiarity at least with the pages of the "British Pharmacopœia," which it is the fashion of some to despise or decry.

Thanks to the labours of physiologists and pharmacologists on the one hand, and of organic chemists on the other hand, it is now possible, and even comparatively easy, to give an interesting and practically useful course of lectures on materia medica and therapeutics to medical students, but not earlier than their third year. I venture to affirm that it is entirely the fault of the lecturer, and not of his subject, if he does not succeed in quickening the dry bones of Materia Medica, and in awakening and maintaining the lively attention of his class.

With a little thought and trouble numerous simple experiments, chiefly chemical, can be shown in illustration of the more important physiological and therapeutical properties of drugs. Take, for example, antipyretics and their modes of action, or the local action of astringents and caustics, experimentally illustrated by the reactions of various acids and metallic salts upon solution of albumen; or, again, take the group of "aromatic compounds" where

it is possible to give a brief but comprehensive survey of the general chemical and physiological relations of the subdivisions of this great group—viz., hydrocarbons, phenolic compounds, acids, and nitrogen derivatives (alkaloids, &c.).

And in this aromatic group, which includes the antipyretic drugs, there is abundant opportunity for drawing attention to many interesting points in illustration of the connection between physiological action and chemical constitution.

PHYSIOLOGICAL ACTION AND CHEMICAL CONSTITUTION.

Since the properties and motions of molecules which determine physical properties depend upon the motions and properties of atoms which determine chemical reactions, the same common laws must govern both physical and chemical phenomena.

And no one can doubt that the properties of the most complex compounds depend upon and are intimately correlated with the properties and configurations of the atoms and molecules of which the aggregates are built up.

This fascinating subject, which received its impetus in Great Britain from the labours of Crum Brown and Fraser, has not escaped the attention of former speakers at meetings of this Association, for, at the Brighton meeting of 1896, Sir T. Lauder Brunton delivered an attractive address on the connection between chemical constitution and physiological action, and Sir W. Broadbent upon more than one occasion (in 1890, and again in 1895) has likewise referred to this topic, which he rightly esteems as one of fundamental significance.

Bit by bit—here a little, there a little—we are gathering the kind of material which can best help us to gain insight into the principles of therapeutics.

True, we may have to wait a good while before a stately edifice can be built up, but none the less does it hold true that the problems of therapeutics, and for that matter, of all biology, are, at the root of things, essentially chemical or physico-chemical, in so far as we are at all able to interpret them, or refer them to general laws.

To give an example or two :—

Some of the fatty hydrocarbons are in themselves tasteless, but let us introduce the radicals OH (hydroxyl), NH_2 (amidogen), or NO_2, and lo! we get colour, odour, or taste conferred upon the molecules. For a compound to have a sweet taste it must contain at least two oxygen atoms (and every electro-positive group must be united to an electro-negative group). Thus all polyatomic alcohols are sweet (*i.e.*, glycol, glycerine, &c.), and aromatic sugars, *e.g.*, have a bitter taste (Sternberg, *Chem. Centralbl.*, 1899).

Again, look at the group $C_6H_4\begin{matrix}CO\\NH\end{matrix}$—viz., ortho-benzoyl-imide. As including it we have these compounds :—

1.—Anthranilic acid, $C_6H_4\begin{matrix}CO,\ OH,\\N,\ \ H,\end{matrix}$ and its methyl-ester, $C_6H_4\begin{matrix}CO,\ O\ CH_3\\NH,\end{matrix}$ has a *smell* of orange blossom oil.

2. Indigotin, $C_{16}H_{10}N_2O_2\begin{matrix}C_6H_4\begin{matrix}CO\\NH\end{matrix}C\\C_6H_4\begin{matrix}CO\\NH\end{matrix}C\end{matrix}\!\!\parallel$ has an intense *blue colour*.

3. Saccharin, $C_6H_4\begin{matrix}CO\\SO_2\end{matrix}NH$, is an intensely *sweet* substance ; and, lastly,

4. Ox-indole, $C_8H_7NO\ C_6H_4\begin{matrix}CO\\NH\end{matrix}CH_2$ is a constituent of essential oil of jasmine flowers, associated with anthranilic methyl-ester.

So we find that different effects produced upon the senses of *smell, taste, and sight* are coincident with differences of arrangement in the molecules of the respective compounds, which are all built around a common nucleus (Watson Smith).

Innumerable difficulties still await an answer—*e.g.*, Why should saccharin, which is an "ortho" compound, be so sweet, while the "para" compounds are devoid of sweetness? Still we can assert that great progress has been made in expressing the laws of mixture, combination, solution, dissociation, and chemical transformation on a generalised basis, and chemistry and chemical physics are gradually being brought under the sway of dynamical laws.

PHYSICAL CHEMISTRY AND THERAPEUTICS.

Within the last 15 years the remarkable and daring theories of van't Hoff and his followers upon the nature of dilute solutions, based upon certain physical data (viz., osmotic pressure, alterations of the boiling point and freezing point), together with Arrhenius' hypothesis of ionic dissociation, have largely engaged the attention of physicists and chemists; nor have they failed to make their impress upon pharmacological investigations.

The earliest reference I have noted in pharmacological work to van't Hoff's important researches is contained in a paper by Hofmeister (Zur Lehre von der Wirkung der Salze. *Archiv f. exper. Pathol. und Pharmak.* Bd. xxv., 1889).

In the same journal (Bd. xxix., 1892) is a suggestive paper by Dreser, "Ueber Diurese und ihre Beeinflussung durch pharmakologische Mittel."

In this connection I may specially refer to Dr. C. R. Marshall's excellent summary of the "Ion" question, published in the *Practitioner*, February, 1898. In this paper, which broached the subject for the first time in an English medical journal, he gave an abstract of Krönig & Paul's theory of the action of antiseptics in the light of the electrolytic dissociation theory, and also of Loeb's views on the physiological effect of various radicals.

But, furthermore, we have to take into account, not only the number and kind of atoms in the molecule, and their interior arrangement and grouping (constitution), but certain physical properties of compounds previously inexplicable have found their explanation in another development of chemical theory which has proved extraordinarily fertile. I refer to stereo-chemistry—*i.e.*, the doctrine of the spatial configuration of the molecule. This theory has done much to elucidate the difficult problems of isomerism in organic chemistry, and we cannot doubt that it will shed light upon chemical transformations occurring in the organism. Dr. Emil Fischer has published in the *Zeitsch. f. physiolog., Chem.*, 1899, an important paper, in which he seeks, in conjunction with Thierfelder, to explain the selective action

exhibited by the enzymes either in effecting fermentation or in producing hydrolysis.

It is well known, for example, that a glucoside, *e.g.*, salicin, may be attacked by one enzyme (emulsin) and not by another (yeast enzyme), and accordingly Fischer and Thierfelder conceive the hypothesis that between the enzymes and those substances which they attack there must exist a correspondence in molecular configuration, which they compare to that of a lock and its key.

And again, of two isomeric sugars closely allied (*e.g.*, glucose and xylose), one (glucose) may be oxidised in the body or converted into glycogen, whereas the other (xylose) may pass unaltered through the system.

All these various methods of investigation are to be welcomed by us as tending to aid in the unravelling of pharmacological problems. Yet, although we shall ever strive to combine science with practice, we need not run away with the notion that pharmacology will surely inaugurate the golden era of therapeutics, and enable us to give a satisfactory reason for each medicine we prescribe.

In the future, as at present, it will probably always hold true that, in order to meet the complex and shifting needs of the daily practice of our profession, pharmacology must be wedded to careful and well-balanced clinical observation, and practical therapeutics not infrequently outruns pharmacology, for, as Dr. Cuming well remarked in his scholarly presidential address at the Belfast meeting in 1884, "The true dignity as well as the great attraction of our studies lies in their practical usefulness." And Bacon has said—"They be the best physicians which, being learned, incline to the traditions of experience, or, being empirics, incline to the methods of learning."

But here we are constantly made to feel our difficulties and limitations, and the wise physician is not addicted to boasting of his therapeutic successes. In therapeutics, as in theology, opposite conclusions can be drawn from the same text.

What are we to say to such a fact as this?

In the *Practitioner* some months ago there appeared a highly interesting series of papers upon pneumonia and its

treatment. Yet, upon a definite, and apparently simple point—viz., the administration of opium in acute pneumonia, two men, whose powers of observation have been developed to the highest possible degree by constant exercise for more than half a century, expressed diametrically opposite opinions. While Sir Samuel Wilks announced his firm belief in opium, Sir William Gairdner was of opinion that in most cases opium in pneumonia is a remedy to be entirely distrusted, and even severely proscribed.

A PROTEST.

One word in conclusion. The flood tide of discovery of new synthetic chemical remedies has, together with a few treasures which have risen on its crest, also washed on shore much rubbish of a pseudo-scientific sort.

Are we not daily worried with samples, and with advertisements and circulars from eagerly competing firms, announcing new drugs or novel combinations, which, perhaps, are used chiefly by those who do not know how to employ the old ones. Scarcely are they advertised once before they are elbowed away by importunate new comers.

The advertisement is headed with an enigmatical name standing over an appalling chemical formula, and probably ornamented with a structural or graphic diagram. All this is backed up by a plausible show of original experimental work, and ends with a "full literature." In a pamphlet lately issued about some newfangled preparations of iron, 62 literary references were appended, and a well-known and reputable drug firm advertised in a recent number of the *British Medical Journal* more than 20 of its special preparations, some of which probably most of us never heard of. And not only are we plagued with innumerable circulars which choke our waste paper baskets, but we are tormented during our consulting hours at home by the visits of smooth-tongued touting agents of many of the large firms.

This most objectionable practice in on the increase. It should, in my humble opinion, be stamped out by the medical profession, and I avail myself of this public opportunity to protest against it.

For some time past I have made it an invariable rule, and

given directions accordingly, that I will not receive or interview the agent or representative of any drug firm, no matter how famous. If by chance or sheer audacity one of these gentry does find his way into my consulting room he very speedily finds his way out again.

I entirely sympathise with the writer of the indignant letter, headed "Chemists' Travellers," and signed "M.D., M.S.," *British Medical Journal,* May, 1900, p. 1263.

With such thoughts in our mind, ought we not hearken to the admonition of St. Paul, and "henceforth be no more children, tossed to and fro, and carried about with every wind of doctrine."

ART. X.—*Portrush from a Medical Point of View.*[a] By JOHN CHARLES MARTIN, M.D., B.Ch., B.A., Univ. Dubl., President of the North of Ireland Branch of the British Medical Association.

SITUATION OF THE TOWN.

I WOULD invite your attention to what may be called "Portrush from a medical practitioner's point of view," as distinguished from the way this town and the North of Ireland generally are treated in the popular handbooks and guides of the day. In the first place, allow me to point out that the town itself is built on a rocky peninsula jutting into the sea in a direction almost due N.W., the neck of the promontory being a deposit of sand of considerable depth, widening out in opposite directions as it approaches and joins the mainland into two fine beaches, one running more or less south for about a mile, the other east for a distance fully twice as far. The situation of these beaches, with the elevated house-covered rock between them, holds out certain advantages which I do not believe have been fully realised—namely, that it is almost always possible to get a spot on one beach or the other for young children and people who are not strong to enjoy themselves, sheltered from whatever quarter the wind may happen to be blowing.

[a] Read before the Twenty-second Annual Meeting of the North of Ireland Branch of the British Medical Association, held at Portrush, Co. Antrim, on Thursday, July 5, 1900.

The area of the town is about 211 acres, but of such a peculiar form that it possesses a seaboard of about two miles. Therefore, residence in the town itself may be fairly considered to hold out the advantages of life on board a ship, the Atlantic Ocean beating practically all round—a sojourn, from this point of view, being as good as a sea voyage, without the latter's attendant inconveniences and other distressing accompaniments.

DRYNESS OF ITS SOIL.

Another feature is this, that the paths, streets, and roads of Portrush dry up in an incredibly short time, even after the heaviest showers, this, of course, being due to the fact that the rain rapidly percolates through the sandy surface soil, and finds its way, either by flowing along over the sloping surface of the rock on which the town stands, or through the fissures in its mass, into the sea. This fact is of importance when it is remembered how beneficial it is for the young to be able to take exercise without running the risk of getting their feet wet, and also how necessary it is in cases of many invalids that they should be protected from the danger of walking or sitting down on damp soil. Further, the exhausting effects of oppressive heat need never be experiencd by any visitor on account of the prevalence of a refreshing sea breeze, which is never absent even during the sultry weather of the dog days, on the extreme point of the headland called Ramore Hill.

WATER SUPPLY.

The town being so favourably situated in these and many other respects for those in quest of health, it may be well asked what has been done to meet the requirements of modern life as regards water supply and sewage disposal? The reply to these questions of the first importance may, I believe, be best examined by considering the steps that have been taken to furnish a system of collecting, storing, and distributing a supply of water, and then the second part of the inquiry follows as a corollary because, as soon as a scheme of this nature has been provided, the very fact of the setting up of sanitary conveniences inside the dwelling-house almost immediately takes the place of the inconvenient out-door

arrangements which sufficed in our grandfathers' time, and a proper sewerage scheme becomes an absolute necessity. The scheme for providing a water supply was begun in 1878, Mr. Tate, the then County Surveyor, being the engineer for the work. The first loan obtained amounted to £4,000, and an additional loan of £2,500 was required in 1880 for completing the work. The plan (shortly put) was as follows:—A considerable tract of country, about two miles out, at a good level above the town, was selected as being suitable for a catchment area. The water from this district was collected and carried by open channels into a reservoir where it was stored, then it was conducted through a suitable filter bed into the clear water basin, from whence it was piped into the town. Certain minor improvements were carried out in 1882 and 1891 at a cost of £350 and £470. By the year 1896 the supply was found inadequate, and a further scheme was set on foot and subsequently completed, by which the storage capacity was doubled, and at the same time the opportunity was seized to remedy what up to this time constituted an obvious weak point in the original plan—namely, the conduction of the water along open channels and the collection of the supply over a tract of country dotted over with farms. The springs in this region have now been tapped, and from them a series of underground tubes convey the water to a subterranean well-head, whence it is piped to the waterworks, and so the two defects, which left the supply liable to contamination, have been completely overcome, and Portrush has at present a supply of water amply sufficient for all domestic purposes, of good quality, and removed from danger of contamination from all possible sources. The amount of money expended on this scheme of enlargement and amendment was £2,500, making the total spent on the waterworks very little short of £6,000.

SEWERAGE SYSTEM.

About the sewerage system not so much requires to be said. The plan was entrusted to Mr. L. L. Macassey, of Belfast. The configuration of the ground on which the town stands readily lent itself to the conveying of the sewerage matter to the sea by suitable gradients. The

main system catches the sewage of the five or six principal streets and discharges it at a point at the back of the harbour where the north pier joins the practically inaccessible west cliffs of Ramore Head. A valve at the outlet regulates the discharge so that the outflow takes place only when the tide is running in the desired direction, and the sewerage matter is thus conveyed at once into the deep sea. Two smaller systems intercept the private sewers of the rows and terraces of houses along the sea front, and thus prevent any polluting of the foreshore. The whole system reflects credit on the eminent sanitary engineer who devised it, and on the contractors who carried out the work—Messrs. M'Crea & M'Farland, of Belfast—the cost being £2,500. An additional scheme has latterly been carried out at a cost of £260, so that, on the sewerage system, the town has spent a sum approaching £3,000.

AS A HEALTH RESORT.

As regards the extent to which zymotic diseases affect the town, I need not trouble you with dry statistics. It is a well-known fact that anything can be proved by figures. I will merely content myself with stating a few facts, and leave them to speak for themselves. The following statement I give on the authority of the Rev. Jonathan Simpson, one of the most honoured residents, and I believe almost the oldest inhabitant of Portrush:—In the year of the cholera in 1849, when that epidemic was raging in the two neighbouring towns of Coleraine and Bushmills, not a single case occurred in Portrush except one—a man who died here just after his arrival from Coleraine on a car. But even though in this way the disease was brought right into this town, the infection never spread while hundreds died in the adjoining towns. This fact speaks volumes for the healthy surroundings of Portrush. Then as regards that disease of modern life—enteric—I can state that during the eighteen years that I have been medical officer of health there never has been anything like an epidemic. The cases which have occurred may easily be counted on the fingers of the hands—I exclude, of course, those cases which arrived obviously during the incubation period, and in whom the disease developed shortly after. In making this statement

I know I leave myself open to contradiction, because the question is one on which controversy has arisen, it being only natural that the families of the sufferers, and their own physicians, when called down in consultation, should not be over-anxious to clear this town, since by doing so the only alternative left was to foul their own nests. On a dispassionate consideration of the matter I am convinced I am making what may be considered a fair and reasonable statement. As regards the remaining zymotic affections, Portrush compares favourably with other towns. The epidemics run a short course, attributable to the surroundings supplying such an abundance of fresh air. As regards the advantages to be obtained from the well-known effects of sea-water bathing, every facility is afforded, while the new baths lately opened in the Northern Counties Hotel (open to the public) are justly considered the finest in the kingdom,

In conclusion, I would state that few seaside resorts offer better advantages than Portrush to those requiring a long or short residence on a dry soil, together with the bracing effects of sea air, and the possibility of enjoying, to a very great extent, mild or moderate outdoor exercise in fairly sheltered situations.

ART. XI.—*On the Accentuation of the Second Sound in the Pulmonary Area. Skoda's Sign.*[a] By J. F. O'CARROLL, M.D., F.R.C.P.I.; Physician to the Richmond, Whitworth, and Hardwicke Hospitals.

IN medicine, more than in almost any other branch of natural science, facts accumulate and theories disappear. Destructive criticism is a necessary force in scientific progress, and this must be my excuse for asking for a reconsideration of Skoda's theory of the accented second sound; even though the weight of authority has been on its side for fifty years. "When," he says, "the pulmonary artery is abnormally distended, which it always must be when the pulmonary circulation is obstructed, its second sound becomes very loud. . . . The pulmonary artery when thus

[a] Read before the Medical Section of the Royal Academy of Medicine in Ireland, Friday, December 15, 1899.

distended presses with increased force upon the blood within it, and consequently the backward stroke of the column of blood against its semilunar valves becomes more forcible." This is anent aortic incompetence. Again, in discussing mitral insufficiency, he says "the second sound of the pulmonary artery is increased, and the accent falls distinctly upon it." In mitral stenosis, "the second sound of the pulmonary artery is increased."[a]

This observation and explanation of Skoda's have been accepted, practically without reserve, by almost every subsequent authority in English medical literature, and, so far as I know, are equally uncontroverted on the Continent. Yet, I cannot help thinking that the statement of fact is not by any means a complete one; and I shall offer reasons why the explanation does not seem to me to be reasonable. So far as I can find Skoda's reasoning on the point is wholly *à priori*, and may, I think, fairly be stated thus:—*In many cases of disease involving the left side of the heart, the second sound is heard with marked clearness and even accentuation at that spot on the chest wall at which the pulmonary artery comes nearest to the surface. The sound is therefore in the pulmonary artery. Disease of the valves of the left heart induces a tendency to more or less delay in the circulation through the lungs: the pulmonary system is in fact over-full; there is therefore a condition of engorgement of the pulmonary artery, and consequent slamming, so to speak, of the pulmonary valves, indicated by an exaggerated noise or accent.*

With regard to the first conclusion in the foregoing statement, it will be granted, I think, that a vascular murmur heard on the surface is not necessarily produced by that vessel which happens to be most superficial at the point of observation. Without elaborating this point too far, I need only point out that the pulmonary artery is closer to the surface than the aorta in the mid-sternal line and even at the right border where one would make no difficulty about calling a systolic murmur an aortic one; and with regard to the diastolic basal murmur, that it is frequently best heard in the lower part of the so-called

[a] Skoda. A Treatise on Auscultation and Percussion. 4th edition. Translated by Markham. 1853.

pulmonary area, in the third left interspace, and that no one would think of concluding from that fact alone that such a murmur indicated an incompetence of the pulmonary valves. The argument from position seems to me to receive its *coup de grace* from the fact that, although at the "pulmonary" area the pulmonary artery is superficial to the aorta, yet the valvular orifices are very nearly in the same plane, one of them actually overlapping the other, so that the mass of the pulmonary artery and conus arteriosus forms an admirable medium for the conduction of the aortic sounds to the surface.[a]

With regard to engorgement of the pulmonary vessels as a cause of increased recoil in the pulmonary artery and slamming of the pulmonary valves, I think the argument *à priori* is equally weak. Other things being equal, the loudness of the diastolic note will be in proportion to the amplitude of the recurrent wave from the periphery in the pulmonary artery. But in mitral incompetence or stenosis the pulmonary artery tends to be still fuller than it is in health, and in health it is, as the physiologists teach us, somewhat distended or over-full. In disease of the mitral valve, therefore, the artery wall is stretched in the presystolic period nearer to its limit of elasticity, and therefore its range of post-systolic recoil is more limited. That is to say, that the amplitude of the recurrent wave will be less than normal, and the intensity of the second sound should be correspondingly diminished.

But theoretical considerations such as the preceding have no value compared with the results of actual observation. Let us see, then, whether there are any practical objections to Skoda's theory. In the first place I point to the fact that this accentuation is absent in many cases in which, according to the theory, it ought to be present. Thus it is by no means common in emphysema of the lungs; nor in

[a] It is misleading, it seems to me, to speak of the second right interspace as the aortic and the second left as the pulmonary area. This localisation had a value for the distinction of aortic from pulmonary *systolic* sounds; but when we come to diastolic murmurs it has no value at all; and I am inclined to think that even the ordinary second sound in the normal heart is better heard at the left border of the sternum than at the right.

phthisis, unless a consolidated piece of lung intervenes between the base of the heart and the thoracic wall; nor is it heard usually in aortic regurgitation (notwithstanding Skoda's statement to the contrary), even though there be signs of delay in the pulmonary circulation; nor even in aortic regurgitation when mitral incompetence has been superadded; nor indeed is it present in all cases of mitral disease anterior to failure of compensation. Again, the accentuation is present in a considerable number of cases in which there is not the slightest reason to suspect either heart disease or any tendency to delayed pulmonary circulation. Thus it is commonly present in children, in neurotic persons, in chlorosis, and at the beginning of fevers. Finally, I shall make brief mention of three cases in which the accentuation disappeared, and the second sound became very faint coincidently with the supervention of a diastolic aortic murmur, thus indicating, in my opinion, that the so-called pulmonary accentuation was really aortic.

Case I.—R. O'C., aged thirty-two, Whitworth Hospital, 1896, mitral regurgitation and accented second sound: while under observation he developed a systolic aortic murmur, and a little later a short diastolic murmur became audible. At the same time the "pulmonary" accent, and indeed the second sound in that area, disappeared, and the only second sound of pure character which we could find was a faint one at lower right border of sternum. The necropsy confirmed the diagnosis.

Case II.—E. D., aged eleven. Purpura with endo- and peri-carditis (malignant). Admitted to Children's Hospital, 10th September, 1896, under care of a colleague, who noted "loud mitral regurgitant murmur, with accentuated pulmonary second sound and hypertrophy of left ventricle." She came under my care about the middle of October. I examined her carefully on the 21st and 23rd, and found the mitral murmur, and also a double aortic murmur, but not a trace of any pulmonary accentuation, and in fact no pure second sound at all, notwithstanding that the increased bulk of the heart had pushed aside the lung. I had her examined again by my colleague, on whose accuracy in clinical observation I place the greatest value; and, though he accepts Skoda's views, he corroborated my observation as to the almost complete disappearance of a sound which a few weeks before had been intensified. The diagnosis as above was confirmed by necropsy.

Case III.—Mrs. K., aged forty-two, was under my care in the Whitworth Hospital in 1897 with presystolic apex murmur and thrill, and "second sound accented in pulmonary area." Re-admitted recently, and still under my care; she presents a short systolic as well as the presystolic apex murmur, but the accentuation in the pulmonary area has given place to a very faint second sound, with which is heard a soft murmur. I am driven to conclude that whether by reason of a sclerotic process ascending the anterior mitral valve into the aortic valves continuous with it, or of an independent valvulitis, she has now a slight aortic regurgitation murmur replacing the original aortic accent.

These cases indicate the direction in which I look for an explanation of the sound under discussion; though I am far from maintaining that the pulmonary artery takes no part in the production of the second sound—for in Cases I. and III. I am prepared to accept the faint second sound as mainly, if not entirely, pulmonary—I am slow to believe that the vigorous second sound of early mitral disease is mainly pulmonary. In my view it is produced at the aortic orifice as the result of increased amplitude of the recoil wave in the systemic arteries: the increase in the amplitude being caused either by diminished quantity of blood thrown into them by a vigorous ventricle, as in mitral disease, or by diminished vasomotor tonus, as in children and neurotic adults, for instance. An examination of the radial pulse in these cases will usually show that it is soft, rapidly dilating, and rapidly contracting; it might be called a resilient pulse, or a "puerile" pulse, from the absence in it, as in the child's pulse, of any hint of continued tension.

If this view of its causation be accepted, the accented second sound might help us, in addition, of course, to other and I confess much more valuable criteria, to recognise and, as it were, delimit three stages in an ordinary case of mitral disease. In an early stage there may be simply the murmur, without any accentuation of the second sound or any other sign of lack of compensation. Later on the second sound may be accented—if transitorily, without much morbid significance; if constantly, indicating diminished systolic influx into the aorta from a vigorous ventricle

or relaxed vasomotor tone. Finally, the intensity of the second sound diminishes from supranormal to subnormal in proportion as an impeded or engorged venous circulation offers more and more resistance to the arterial flow; in fact, as the condition of the general circulation begins to resemble that which had been established earlier in the pulmonary area. Given, then, an accented second sound, constantly present, I should assume it in almost all cases to be of aortic origin. The next question is, whether it is functional as in children, neurotics, and chlorotics, or due to increased facility of conduction, as by a condensed edge of lung or increased bulk of heart; or is it to be referred to an organic heart disease? Assuming evidence of the last condition present, I should fear that my patient had entered upon the stage of more or less precarious compensation.

It may fairly be asked, how much farther do we get by this view of Skoda's sound than by the older one? To which I answer, that the former theory has never enabled us to recognise mitral disease without the presence of a murmur, nor to predicate moderate compensation unless the signs of non-compensation were absent. It is a link in a vicious circle of reasoning, of which I could give very recent examples. It was deduced *à priori* from the impeded pulmonary circulation, and was offered as a proof that the pulmonary circulation was becoming impeded. Finally, as I have striven to show, it does not respond to facts, and fails to explain accentuation without heart disease.

The aortic theory, on the other hand, gives us a fairly clear conception of the conditions present; it is useful for other cases than those of heart disease, and it is not inconsistent with facts. It brings some evidence to bear on three important points: the efficiency of the left ventricle, the quantity of blood thrown into the aorta at the systole, and the resiliency of the artery walls. Finally, it does not mislead us into the baseless and dangerous conclusion that the compensatory activity of the right heart can be measured by the intensity of the second sound in the so-called pulmonary area.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Diagnosis and Treatment of Syphilis. By Tom Robinson, M.D. Second Edition. London: J. & A. Churchill. 1900. Pp. 138.

A second edition of this book has recently been published by Messrs. J. & A. Churchill.

It is simply a republication of the first edition with a few corrections, and without any substantial alteration.

In his preface the author states that his object in writing the work was to present to students and practitioners a trustworthy, practical and concise treatise on syphilis. He adds—"My observations have been made to a large extent in private practice, for it is here that we are brought into daily contact with the drama of syphilis in a manner singularly calculated to enable us to watch and to note the progress of the malady." This is, no doubt, true; but as many of the graver and most tragic scenes of the drama are seldom or never witnessed among the social class of patients from which private practice is derived, it is necessary to go beyond this limited field of observation to obtain material for anything pretending to be a complete practical treatise upon the subject. It is only among those whose poverty, ignorance, and immorality prevent them from availing themselves of early treatment that the whole progress of this dreadful malady can be watched and noted.

The author first deals with soft chancres, mixed chancres, and phagedæna, and lastly with syphilis. He proposes to abolish the time-honoured and historic term "hard chancre" as implying some relation to soft chancres. He also wishes to abolish the long-recognised terms secondary and tertiary syphilis, as implying a distinct line of demarcation which is not found to occur in actual observation. He would substitute the term "initial lesion" for all the local phenomena which occur at the point of infection, and to which hitherto

the term primary syphilis has properly been applied. These phenomena are now universally admitted to be of various kinds; but among these initial lesions the "hard chancre," known as the "Hunterian chancre," must for all time hold its place as the most certain and reliable local evidence of a syphilitic inoculation, which, if not promptly checked by early and judicious mercurial treatment, will inevitably be followed by the development of complete syphilis. Mr. Robinson says that John Hunter was the first to recognise the value of the induration which is characteristic of the initial lesion of syphilis, but that he was mistaken in his conclusions. Ricard, Wallace, Carmichael, and many others also recognised the diagnostic value of this symptom; but neither they nor Hunter were mistaken in the main conclusion which they arrived at—that its presence was a certain proof that active and effective syphilitic inoculation had taken place at the point of induration, which would inevitably be followed (after a period of what they called second incubation) by the development of secondary syphilitic phenomena. The mistake which syphilographers of this period made was that they argued from the particular to the universal; they concluded that, because this particular form of initial lesion was the infallible forerunner of complete syphilis, therefore all cases of constitutional syphilis must have been preceded by a hard chancre. We now know that the initial lesions of syphilis are as variable as the phases of the disease itself, and that the virus in some instances is capable of being absorbed and developing a complete series of the sequelæ of syphilis without having produced any discoverable local initial lesion whatsoever. These facts do not, however, deprive the hard chancre of its pre-eminently diagnostic and prognostic value.

It is surprising to find the mistake still perpetuated in this work that Hunter was the first to recognise the characteristic induration of the initial lesion of syphilis which has been so generally associated with his name. No doubt his was the first description of it which appeared in the English language, but it was as clearly recognised and described in the sixteenth century by several writers. In 1544, in describing venereal sores on the genital organs, Labora wrote the following words:—"Sunt pustulæ cum duritie et calosi-

tate quæ sanari exacte nequeunt, perpetitur quod morbi gallici certum signum est." Pierre Maynard and A. Ferri, about the same time, employed similar language; and in 1555 Fallopius wrote of hard sores with even stronger significance. He gives a description of the indurated venereal ulcer and the lymphagenitis which accompanies it:—"Calli isti sunt manifestissima et demonstrativa signa morbi confirmati." While it does not appear that these ancient observers fell into the error of thinking that the hard sore was the only form of the initial lesion of syphilis, they placed it in the superlative degree as the greatest manifestation and the demonstrative sign of the disease being confirmed. So long as venereal sores continue to exist the term "hard chancre" cannot be abolished, as it, and it alone, is applicable to the most important and characteristic of the whole group of initial syphilitic lesions. Nor can we consent to the abolition of the now thoroughly understood terms "secondary" and "tertiary syphilis." Although there is no distinct line of demarcation between these periods of the progress of syphilis, they are convenient terms, and convey to the mind of every intelligent student of the disease a distinct and definite meaning which cannot be conveyed if the phenomena peculiar to these different stages are described under a common term, such as "sequelæ of syphilis."

At page 48 the author makes a statement which is curiously at variance with our experience in Dublin. He asks, "What influence have the acute specific fevers upon syphilis?" In reply he says, "I cannot call to mind a single case where a patient suffering from the early manifestations of syphilis has ever contracted an acute blood disease." It is within our memory that a girl suffering from early syphilis was admitted into the Westmoreland Lock Hospital and developed typhus fever on the fourth day after her admission. Six other syphilitic patients who were in the same ward with her took the fever from her; she recovered and one of the others died. We have recently seen a case in private practice where a gentleman who was in the early stage of active syphilis got a very severe attack of scarlatina. Syphilitic children are frequently born in the Lock Hospital, and are vaccinated while actively syphilitic; and although the

vaccine pustule is commonly modified or delayed, and sometimes takes on a syphilitic action at its base after it has run its usual course, it is only in very rare instances that the vaccination is unsuccessful; and if the child has been put upon mercurial treatment for a few days previous to vaccination it runs its course as it would do in the case of a healthy infant. Is not vaccina as good an example of an acute blood disease as variola or any other exanthem?

There are only twelve short pages of this little volume devoted to "Treatment." There is nothing original or particularly noteworthy in this chapter, except what the author describes as "amphibious treatment" of phagedænic chancre, in which he keeps the patient for a hundred hours in a warm bath. We venture to think that this method would very seldom be found practicable, and we are glad to say we think it as unnecessary as it would be impracticable.

It is noteworthy that except by the application of a little blue ointment to the feet of congenitally syphilitic children Mr. Robinson does not advocate the treatment of syphilis by mercurial inunction, which in our experience is the most convenient and certain means to obtaining rapidly the beneficial effects of the drug without any derangement of the digestive organs or necessitating any irksome restriction in the patient's dietary.

On the whole, however, the book is a concise and well brought out little volume, and one from which the student and practitioner may derive much useful knowledge, particularly as to the variety of forms in which the initial lesion of syphilis may present itself apart from that of the historic hard chancre of Fallopius, Hunter, and other ancient observers.

Experimentelle Untersuchungen ueber die Pathogenese der Cholæmie, und die daraus sich ergebenden Grundsätze für die Therapie der von der Cholæmie begleiteten Leberkrankheiten. Von. Dr. med. ADOLF BICKEL. Wiesbaden: J. F. Bergmann. 1900. Pp. 112.

AFTER a summary of the work which has already been done on the subject of the group of symptoms known as cholæmia and a statement of the theories which have

been put forward to explain this still little known pathological condition, the author divides his work under two great heads: I.—The destruction of the hepatic cells as a cause of cholæmia, and II.—The stasis of bile as a cause of cholæmia.

There are three conceivable ways in which destruction of the liver cells may act—(1) In the metabolic processes of the different tissues certain substances are formed which undergo, by the agency of the liver, transformation into urinary or biliary ingredients, and are in this way eliminated from the body; but besides these metabolites there are other precursors of the bile which do not necessarily arise from metabolism. If, in consequence of destruction of hepatic tissue, any of these accumulate in the body, intoxication may result, to which the cholæmic symptoms may be due. Experiments on animals were made with several of these intermediate bodies—namely, lactate, carbonate, and carbamate of ammonia, taurin, glycocoll, and hæmoglobin. It was found that of these bodies the ammoniacal salts are those which caused symptoms similar to those of cholæmia — convulsive attacks and impairment of the action of the heart — while Landois has shown that ammonium urate causes similar symptoms and powerfully affects respiration. (2) Certain substances are formed by putrefaction in the intestine, and are absorbed into the blood. These bodies—many of which are poisonous—become, by conjugation or otherwise, in the liver, changed to innocent substances. If the liver cells are extensively destroyed this neutralisation will not take place, and intoxication may consequently result. Of such substances experiments were made with aspartic acid, leucin, tyrosin, and phenol. It was found that leucin and phenol caused convulsive symptoms, and that aspartic acid also exerted an injurious influence on the heart and, in a less degree, on the nervous system. Tyrosin was found to be inert. (3) It may be supposed that the products of the destruction of the liver cells themselves and the bodies arising from them may be the cause of the cholæmia which occurs when the hepatic cells break down. There is some evidence that these may

be a factor in the disease, but it is not possible to state certainly what the poisonous substances are. Some, as leucin and tyrosin, are possibly the same as some of those already considered.

II. Stasis of bile may be a cause of cholæmia, and experiments with bile itself and the bile acids showed that these substances are highly poisonous to the nervous system of mammals. When applied to the exposed brain they caused loss of consciousness, convulsions, maniacal and cataleptic conditions, with disturbance of respiration, loss of sensibility and salivation.

On the whole, cholæmia must be looked on as an intoxication in which the salts of ammonia and the bile acids play the most important part.

It would lead us too far to describe the numerous and carefully conducted experiments described in this able and painstaking paper or to follow the author in his lengthy arguments. But we would, while recommending the work to the notice of our readers, express our sense of its great value as a contribution to the experimental study of a very obscure but highly interesting subject.

Lepra: Bibliotheca internationalis Opera consociata Virorum, &c. Vol. I., Fasc. 1 and 2. London; J. & A. Churchill. 1900. Imp. 8vo. Pp. 92. 6 Plates.

Dr. Ehlers, the editor-in-chief of this new periodical, in his preface points out the ignorance which at present prevails in the bulk of the profession on the subject of Leprosy. The infectious nature of this disease, universally recognised in the Middle Ages, subsequently doubted or denied, is now again made unquestionable by the discovery of Hansen's Bacillus lepræ. Numerous examples have proved that the disease may be carried from a distance, and that fresh cases may crop up in places which have been hitherto free from the malady. In the present age of travel and colonisation such danger is peculiarly to be dreaded, and Europe and the United States are again threatened with the scourges of the Middle Ages—leprosy, plague, and cholera. Up to this but little attempt has

been made to treat cases of leprosy. The patients have been treated as Pariahs, and humanity demands that the same care which has been given to tuberculosis and syphilis should be extended to leprosy. The object of *Lepra* is to concentrate international effort on all subjects connected with this fearful disease. The journal will contain not only original articles, but also summaries and analyses of all the publications bearing on the subject. The two first fasciculi contain seven original articles and a large number of references, classified under the various headings to which the papers belong—as hospital reports, history, geography, pathology, therapeutics, prophylaxis, and legislation, &c. The languages used are English, French, and German. There are six plates, five of them printed in colours. Four fasciculi are to form a volume, which is to cost one pound sterling.

The original papers are—I. The Description of a Rare Case of maculo-anæsthetic Leprosy, in which some of the spots had the appearance of nodules, by Dr. Armauer Hansen. II. On Leprous Affections of the Glans Penis, by Dr. Leopold Glück. These are by no means so rare as is often stated. Out of 40 cases of men suffering from tubercular or tuberculo-anæsthetic leprosy 10 showed lesions of the glans penis, either tubercles or flat or elevated infiltrations. In some cases the infiltrated spots ulcerated, and the pus contained bacilli. The paper contains valuable remarks on the diagnosis between leprous and other affections of the penis. III. A valuable and comprehensive paper by Dr. Jean Schäffer, on Visceral Disease in Leprosy. It is shown that the distinction between the histological appearances in tubercular and in leprous affections of the viscera is often very difficult and sometimes impossible. The paper, of which only the first part is published, contains much important and interesting matter, dealing with the properties of the lepra bacillus and the histology of visceral leprosy. It is illustrated by five plates. IV. Dr. Viktor Klingmüller contributes a paper on Lesions of the Skin in maculo-anæsthetic Leprosy, which resemble tubercle in containing epithelioid and giant cells and leading to necrosis. Accompanying the text is a beautifully

executed coloured plate. V. Dr. Bracken gives a statistical paper on Leprosy in Minnesota, with valuable suggestions as to how the disease should be controlled, and its further spread prevented. VI. Dr. Ehlers writes on the Mercurial Treatment of Leprosy, which has lately, in the hands of Dr. Crocker and others, given good results. He shows that it is not altogether new. His own results are sufficiently good to encourage further trials of mercury. VII. Of Dr. Oscar Woit's paper on the Anatomical Changes which occur in the Spinal Cord and Nerves in maculo-anæsthetic Leprosy only the first part appears. It promises to be an important and interesting work when completed.

Judging from the parts before us, we are of opinion that this journal is likely to be a useful addition to medical periodical literature, and as such we would cordially recommend it to our readers, particularly to those who have relations with foreign parts.

Manuel Complet de Gynécologie, Médicale et Chirurgicale. Par. A. Lutaud, Professeur libre de Gynécologie, Médecin adjoint de Saint-Lazare; Membre fondateur de la Société obstétricale et gynécologique de Londres, de la Société de Médecine légale de France, etc. Nouvelle édition entièrement refondue. Paris: A. Maloine. 1900. Royal 8vo. Pages xxviii and 712; 607 illustrations.

The French gynæcological and obstetrical school has been so active of late years, and their activity has yielded such good results, that when we found that a new edition of Dr. Lutaud's "Manuel" was to be published—"entièrement refondue"—we looked forward with considerable interest to its appearance. We were accordingly somewhat disappointed to find that the work, instead of being an advance on its immediate predecessors, is of a mediocre character. A gynæcology of 700 odd pages can follow one of two courses in its general trend. It can be a complete *exposé* of the practice of its writer, that is of the theories and modes of treatment which he considers to be most correct and best, or it can be an epitome of the various theories and treatments which have been brought forward by, or have received the

sanction of, prominent gynæcologists. Dr. Lutaud's work does not follow either of these courses. It does not confine itself to detailing its author's opinions, and it cannot be trusted to contain a reference to all the commonly performed gynæcological operations or modes of treatment. Perhaps the best word by which to characterise the book is "unequal." In parts it is most modern in its teaching, the latest opinions on the subject being faithfully recorded. In parts, not only are methods brought forward which are long given up and which ought to be allowed to rest quietly in their graves, but even all mention of ordinary every-day practices is omitted. Perhaps the most noteworthy instance of this occurs in the chapters devoted to uterine displacements. The chapter on the operative treatment of these conditions is excellent, while the chapter "Des displacements utérins" leaves much to be desired. No pessary is too old-fashioned to be depicted, no illustration from older works is too radically wrong anatomically to be presented to the reader, no method of treatment is too useless to be omitted, and, worse still, no room is found for much of the ordinary treatment of the present day. Amongst others Cutter's pessary is recommended in prolapse; stem pessaries, and Graily Hewitt's pessary, in anteversion; Fowler's in retroversion; intra-uterine stem pessaries in anteflexion. In two illustrations the coccyx reaches to the anus, while in the drawings illustrating the use of a Hodge pessary the relationship of the various structures is entirely wrong and hence most misleading. In this respect we may be allowed to express the wish that the author, instead of abandoning "la plupart des anciens clichés parus dans les éditions antérieures et qui avaient vieilli," had abandoned them all. The reposition of retroverted uterus can be effected—"par le sonde ou le redresser utérin; par le toucher vagino-rectal. Quel que soit le procédé employé, il faut placer la malade dans la position génu-pectorale." Lastly, there is no mention of such a procedure as Schultze's bimanual method of replacing a retroverted uterus.

We are in entire accord with the sequence in which the author discusses the various subjects, although, as he says, it is not the sequence most usually followed at the present day, but we are not impressed with the necessity for every

gynæcology commencing with a chapter upon pelvic anatomy and embryology.

"Fécondation artificielle," the author thinks, practised according to his method has a future before it—"il y a tout lieu d'ésperer qu'elle prenda rapidement la place qu'elle mérite dans la pratique gynécologique." Many people will consider that this operation has already taken that place.

The "Manuel" is written by a man who has been trained in the old school of gynæcology, but who has come to recognise that the new is better. He makes constant and strong efforts to throw off those ideas with which he was familiar, and which have been proved to be wrong, and though to a great extent successful, in many places he relapses.

Practical Manual of Diseases of Women and Uterine Therapeutics for Students and Practitioners. By H. Macnaughton-Jones, M.D., M.Ch., Master of Obstetrics (*Hon. Caus.*), R.U.I., F.R.C.S.I. & E.; President of the British Gynæcological Society, etc., etc. London: Baillière, Tindall & Cox. 1900. Eighth Edition. Demy 8vo. Pp. 947. With 640 illustrations and 28 plates.

We congratulate Dr. Macnaughton-Jones most heartily, not only on the fact that his excellent gynæcology has reached an eighth edition, but also because it has reached it in such an improved form. The book has been almost entirely re-written. Descriptions of the technique of the latest gynæcological operations have been added as well as a great number of explanatory illustrations. The chapters devoted to the forms of hysterectomy and to tubal pregnacy are particularly good.

There is one point in which we think the book could be materially improved, especially from the point of view of students, that is, the arrangement of subjects. The "Diseases of Women" commences at Chapter V., as the first four chapters are introductory, and we confess that we are at a loss to know why some minor gynæcological operations should be discussed first. The disorders of menstruation follow next. Then come chapters on uterine displacements, uterine reflexes, uterine

inflammation, and lacerations and erosions of the cervix. Next two chapters are wedged in on perimetric inflammation, and pelvic hæmorrhage, and then the uterus is again returned to, and benign uterine neoplasms are discussed. Hysterectomy follows, and next tuberculosis, and then the author returns to malignant uterine neoplasms. The order of the remainder of the book is roughly—Affections of the Fallopian tubes, of the ovaries, of the vulva, of the vagina, of the urethra, of the bladder, of the kidneys, and of the rectum. There is a want of logical sequence which is most confusing to a student. We never have been able to understand the advantage which is supposed to be obtained by discussing the diseases of the appendages first, and the diseases of the vulva last, but, if that arrangement is deliberately chosen, it may serve its purpose as well as commencing with the diseases of the external genitals. An essential is that whatever arrangement is chosen, that arrangement be adhered to. German writers are, as a rule, noted for the logical manner in which they discuss the various subjects with which they are dealing, and it seems to be a pity that in this respect British writers will not copy them.

We consider Dr. Macnaughton-Jones' work to be the best epitome of modern gynæcological operations and therapeutics in the English language; and can confidently recommend it to students who are in need of an advanced book, to practitioners, and to specialists who desire a work which will give them concise and accurate information on these important points.

A word of praise must finally be given to the type, binding, illustrations, and general appearance and handy form of the work.

The Cause and Prevention of Decay in Teeth. By J. SIM WALLACE, M.D., B.Sc., L.D.S. (Eng.). London: J. & A. Churchill. 1900.

THE writer has divided his book, consisting of some 100 pp., into eight chapters, under several of which the main factors in the causation of dental decay are considered; these are according to him briefly as follows:—General causes,

heredity, civilisation, irregularity, other diseased conditions (*e.g.*, recession of the gums), and unsuitable food stuffs.

Many theories, some of novelty and not a few open to criticism, have been enunciated to explain the great prevalence of this present-day ubiquitous evil, and they have been put before the reader in a clear and concise manner. That the carbohydrates in certain forms are very prone to cause dental caries is insisted upon, and how the proteids differ in this respect is pointed out; that the lower front teeth are comparatively immune from decay is well known to dentists, this immunity is here stated to be due to the shape of these teeth, the arrangement of surrounding gum and action of the tongue in flushing them with saliva and dislodging *debris* of food likely to undergo acid fermentation if left around them. An important statement finds place in the opening chapter—viz., "Caries is supposed to be hereditary, but strictly speaking is not. It is invariably acquired from external influences—never is it inherent." This is doubtless largely true, and a fact which the public find hard to grasp. Speaking of the relation which *diet* bears to dental decay, the writer is very insistent that above all others this is the question bearing truly upon the matter, and here one might quote the words used (they are from Sir H. Thompson's work on "Food and Feeding")—speaking of wholemeal bread, he says: "No portion of the husk of the grain should be removed from the wheat when ground, whether finely or coarsely, into meal. That a partial removal is systematically advocated by some as an improvement is one of the numerous examples of the modern craze existing among purveyors of all descriptions for eliminating all the inert or innutritious matter from the food we eat." This leads up to the fact that these coarser parts of food stuffs *do* play an important part in the economy, calling for a greater amount of work from the teeth, and these latter benefiting therefrom, owing to the mechanical action upon their surfaces of the fibrous materials, leading to removal of *debris* of the softer, more pulpy kind.

Summing up, the author goes on to say that the cause *par excellence* of caries at the present time is "the elimination of those fibrous parts which naturally accompany bread-

stuffs, &c., and the presentation of the latter in a form which readily lodges and undergoes fermentation in the mouth;" but adds, "although such be the case, it is not generally speaking conducive to inherent deterioration of the structures of the teeth," *i.e.*, does not aid in (so-called) inherited decay.

A theory—rather far pushed, we think—is in another chapter propounded, which assumes the tongue, by its mechanical action upon the lower teeth, an adjuvant or preventive of dental irregularity; so again the extraction of deciduous teeth—an operation, be it said, seldom justifiable—so often leading to crowding later on, due to unopposed action upon the tongue at the seat of extraction, and a compensatory "falling away" in its bulk on the opposite side. Some excellent advice finds place in the concluding chapter as to the diet best suited to lead to that great and rare blessing—a good set of teeth.

Mr. Wallace has certainly written a readable manual, and further, has brought forward a theory to account for dental decay, now so prevalent, which seems novel, and yet likely to "hold water." The publishers have done their part well, and we have no hesitation in recommending this short work to the attention of those who are interested in this important question.

Surgery, its Theory and Practice. By WILLIAM JOHNSTON WALSHAM, F.R.C.S. Eng., M.B. and C.M. Aberd.; Surgeon and Lecturer on Surgery St. Bartholomew's Hospital; Member of the Court of Examiners Royal College of Surgeons, England; Consulting Surgeon to the Metropolitan Hospital, to the Hospital for Hip Diseases, Sevenoaks, and to the Cottage Hospital, Bromley, &c. Seventh Edition. London: J. A. Churchill.

IN the preparation of the seventh edition the author had the assistance of Mr. W. G. Spencer, F.R.C.S., Surgeon to the Westminster Hospital. The reader will find many alterations; obsolete matter having been rightly excluded and new matter added so as to bring the book well up to date.

The sections on the surgery of the brain, cerebral sinuses,

neck, stomach, liver, gall-bladder and female genital organs have received special attention in the process of revision. Many new illustrations will be found, as well as a number of skiagram plates. We should like in a future edition to see a few plates illustrative of the methods adopted for the suture of tendons and nerves added. Such would greatly enhance the value of the description of these sutures and would not much increase the price of the book.

There are just a few points to which we would like to draw attention—viz., no directions are given for insulating the needles before introducing them for the purpose of treating nævi by electrolysis, a point of practical importance in preventing destruction of the skin during the passage of the current.

In Pott's caries we think the causes of paralysis ought to be given more fully. In the operation of gastro-enterostomy the author winds up by stating that "a danger which has not yet been quite overcome is that of exhaustion from vomiting, set up by the regurgitation of bile into the stomach." We are under the impression that a recent modification of von Hacker's posterior method, in which the jejunum is cut completely across, the lower cut end being attached to the posterior wall of the stomach through a hole made in the transverse meso-colon, while the upper cut end is subsequently implanted laterally into the jejunum some inches below the anastomosis with the stomach, will effectually tend to arrest this reflux and thus prevent emesis.

The method of radical cure of inguinal hernia given as Ball's is his older operation and not his recent modification, in which, after torsion of the sac, he then displaces it and firmly anchors it by suture to the abdominal wall, some distance above and external to the internal abdominal opening. None of the more recent methods of radical cure of femoral hernia are included.

In the treatment of tubercular disease of the bladder, injections and other local methods of treatment, such as are suitable for simple cases of cystitis, are recommended, but which, according to other observers, seem to be not only useless, but at times are actually injurious.

In Paget's disease of the nipple we see no mention of the

theory advocated by Thin, that this affection is a *cancerous dermatitis*, secondary to infection produced by the discharge from a duct cancer.

In genu-valgum we should have expected to see some mention made of the method of dividing the tibia some weeks subsequent to osteotomy of the femur, to rectify the deformity in bad cases.

With the exception of these few points to which we have drawn attention the same excellence which has characterised all the other editions is evident in this one. The fact that 33,000 copies have been already published is ample proof of the popularity of this work. There is no book of the size with which we are acquainted in which the student will find so much reliable information.

The print is greatly improved and the illustrations clear. We congratulate Mr. Walsham on the well-merited success of his efforts.

Medical Monograph Series. No. III.: Appendicitis. By A. H. TUBBY, M.S. Lond.; F.R.C.S. Eng.; Surgeon to Westminster Hospital and the National Orthopædic Hospital, &c.

THE object of this monograph is to present a concise account of appendicitis, its modern pathology and treatment. The anatomy, ætiology, symptoms, pathology, bacteriology and diagnosis are all as fully given as space will permit. Eleven pages are devoted to the prognosis, of which four are taken up with statistics, while the treatment is summed up in the last eight and a half pages.

The author adopts the following classification, which would be of more practical importance if he could only have given us any reliable method by which we could state, on first seeing a case, under which variety it should be placed:—

1. Simple appendicitis of a catarrhal nature, accompanied by inflammatory changes in the mucous membrane and ending in resolution or passing on to the more severe forms.

2. Appendicitis, with adhesive inflammation of the peritoneum, ending in resolution.

3. Appendicitis, without perforation or gangrene, with the formation of a local circumscribed abscess.

4. Appendicitis with perforation or gangrene, resulting in acute general peritonitis.

5. Relapsing appendicitis.

It is only within recent years that the full importance of this subject has been recognised, consequently the amount of literature in connection with it is rapidly accumulating. For this reason it is an advantage to students and busy practitioners to get a concise epitome of what has already appeared. This is certainly succinctly given, but we are disappointed at not finding any dogmatic opinion expressed by the author himself in any way, while he does not seem to have added anything to our knowledge such as might reasonably have been expected in a monograph of this sort. The type is large and clear, while the book is neatly bound.

Atlas d'Histologie Normale—Principaux Tissus et Organes. Par MM. Les Drs. Étienne Rabaud et Fernand Monpillard. Paris: Carré et Naud. 1900.

This very handsome volume, the joint work of an anatomist and of a photographer, contains fifty micro-photographic plates, printed in colours, illustrating the simple tissues of the body and the microscopic anatomy of many of the most important organs. The letterpress consists of an explanation of each plate and of 89 pages of introduction, occupied chiefly by the questions of general anatomy, more particularly the development and differentiation of the several tissues. As to the plates, they must be pronounced, on the whole, as excellent. Of course, some are better than others, and some can hardly be called successful, but still many are favourable examples of the photographic method of reproducing histological appearances. Each plate is protected by a sheet of transparent paper, on which are drawn the outlines of the subjacent figure and the reference letters. This greatly facilitates the understanding of the photographs, in which, as is usual, there is often a great want of sharpness and detail. We are strongly of opinion that, with few exceptional cases, photography is not

as yet a good method for illustrating histological work, and we think that if anyone will compare the assistance which can be got from the plates in this Atlas with that which may be obtained from good drawings, such as those in Ranvier's "Traité Technique," the "Lehrbuch der Histologie" of Bohm and Davidoff, or the Atlas of Klein and Noble Smith, he will give the preference to the drawings. Sections of the nervous system, stained by Weigert's or Pal's method, and examined with a low power, photograph admirably, but organs like the liver, the spleen, the kidney, the testicle leave much to be desired. The authors say that any defect in their work is to be explained by faults in the preparation of the objects, and not by imperfections in the reproduction. We are quite sure that the photographs are as good as they can be made, but it is to the photographic process itself that we object. Still this Atlas will be found a valuable addition to the library of every histological laboratory, and we would cordially recommend it to all teachers and students of microscopic anatomy.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. Volume XIX. Malaria and Micro-organisms. London: Sampson Low, Marston & Co. 1900. 8vo. Pp. 828.

THREE articles only are included in this volume. The first is on "Malaria." It runs to 522 pages, and forms the most comprehensive treatise on the subject which has ever appeared in the English language. It is the joint work of two authors, whose names must command attention to this great work. Ettore Marchiafava, M.D., Rome, Professor of Pathological Anatomy and Director of the Institute of Pathological Anatomy at the University of Rome; and Amico Bignami, M.D., Rome, Attending Physician to the Santo Spirito Hospital, Libero Docente in Pathological Anatomy at the University of Rome—these are names to conjure with, when the subject matter is malaria!

If any fault is to be found with Marchiafava's and

Bignami's treatise it is in regard to the minuteness of detail with which they have discussed the subject. The article is illustrated by a series of eleven beautiful plates and various cuts and temperature charts.

Dr. Simon Flexner, Professor of Pathology in the University of Pennsylvania, and Pathologist to the University Hospital, Philadelphia, brings our knowledge both of bacteriological methods and of bacteriology well up to date in his fine monograph on "Micro-organisms," which occupies some 240 pages of the volume.

Dr. Eugene L. Opie, Assistant in Pathology, Johns Hopkins University, and Pathologist to the Bay View Asylum, Baltimore, Maryland, supplements Dr. Flexner's work with a special account of the "Protozoa," which form the lowest division of the animal kingdom, and include those organisms which consist of a single cell.

A Practical Treatise on Diseases of the Skin. By J. Nevins Hyde, M.D., and Frank Montgomery, M.D. Fifth and Revised Edition. London: H. Kimpton. 1900.

Dr. Hyde is a well-known and highly esteemed authority on matters dermatological, and we may be sure that any contribution from his pen will be carefully executed and thoroughly reliable.

The history of the work before us is one of growing appreciation and success. Its first edition appeared in 1883, the second in 1888, the third in 1893, the fourth in 1897, and now we have the fifth, so that it is apparent that this standard treatise holds the front rank as a trustworthy source of information in practical dermatology. It is in the latter aspect that the book is especially valuable, for the authors enter fully and intelligently into the subject of treatment, and give all essential details. New chapters have been written on porokeratosis and blastomycetic dermatitis, and many minor changes have been made throughout the work.

Of the seven recorded cases of blastomycetic (yeast fungus) dermatitis occurring in man six have been recognised in America.

New and original illustrations have been supplied to the extent of 12 full-page plates and two new engravings, and the colouring of the plates is, as a rule, good and life-like. In all there are 24 plates and 111 illustrations, and the photographs are excellent. From every point of view we can cordially recommend the book to our readers.

Contagious Ophthalmia, Acute and Chronic. By SYDNEY STEPHENSON. With 11 Illustrations. London: Baillière, Tindall & Cox. 1900. Cr. 8vo. Pp. 94.

THIS is the first of "The Medical Monograph Series," the aim of which, according to the editor, Dr. David Walsh, is "to sketch in brief compass the chief features of given subjects of every-day interest to students and practitioners."

To Mr. Sydney Stephenson has been accorded the honour of writing the first Monograph of the series, and probably there is no man living better fitted to perform the task, for Mr. Stephenson has devoted so much attention to the study of the various forms of conjunctivitis that he may be considered in the light of a specialist on ophthalmia.

The importance of the subject which he has chosen as the opening Monograph of the series is shown by the amount of injury which neglect or improper treatment of these affections is liable to cause. "Let the reader," he says, "grasp the fact that the ophthalmia of newly-born children accounts for 10 per cent. of all cases of blindness. Let him further realise that, besides being one of the most fruitful sources of blindness, this particular form of ophthalmia is entirely preventable, and that every physician can readily learn the proper treatment, both prophylactic and curative. When he has once accepted these propositions there will be no need to urge upon him the importance of the wider subject by pointing out that affections of the conjunctiva form at least one-half of the eye cases that fall under the care of the surgeon, and that such conditions are for the most part readily amenable to well-directed remedies."

The Monograph contains a clear bacteriological and clinical account of each variety, with photo-micrographs of the various causative micro-organisms. The treatment best suited to

each is then given, and a number of formularies follow for washes, ointments, drugs, &c., which will prove valuable for ready reference. On the whole, we congratulate Dr. Davis on having secured Mr. Stephenson's services, and Mr. Stephenson on the way in which he has executed his task. The Monograph is an excellent epitome of all that is at present known on the subject with which it deals.

The Refraction of the Eye, including a Complete Treatise on Ophthalmometry. A Clinical Text-book for Students and Practitioners. By A. Edward Davis, A.M., M.D. With 119 Engravings, 97 of which are original. The Macmillan Company, New York and London. 1900. 4to. Pp. 431.

The author, in his preface, states that "it is to the end of demonstrating the clinical and practical use of the ophthalmometer, and of recording the advances made in the science and practice of the refraction of the eye, that this book has been written." Again, "In composing the book I have departed from the beaten path, and have devoted the greater part of it to the report in detail of clinical cases, illustrating practical points in the use of the ophthalmometer."

The title of this book is very misleading, for in no sense can it be regarded as a work on "The Refraction of the Eye." Had he in the title, as he has in the preface, as above quoted, called his book "A Treatise on the Application and Limitations of the Ophthalmometer" it would more accurately have expressed what the book really is, and we are anxious to emphasise this lest some unwary student should purchase the book on the supposition that it dealt with the refraction of the eye in general.

To those who wish for a treatise on the ophthalmometer we can recommend Dr. Davis's book, but before it can be understood or made any use of it will be necessary to possess a full knowledge of the refraction of the eye, which must be obtained elsewhere.

There is one feature about this work which we consider very valuable, and likely to make it useful to those who are learning to use the ophthalmometer, and that is the descrip-

tion of typical cases, in which the author tells the patient's symptoms, amount of vision, reaction to lenses, correction by ophthalmometer, &c., and then explains the actual treatment and the glasses prescribed, &c. There is an index to these cases, so that a beginner might, if puzzled, find a case similar to his own, and by its aid be assisted in elucidating the mysteries of his own case.

Dr. Davis is evidently a practical worker, and here and there through the book many valuable hints are given, and had the title of the book not misled us as to its scope we should have been well satisfied with its treatment of its limited subject. Bad grammar in places is to be met with, but it is free from Americanisms, and, on the whole, is very well put together and readable.

RECENT WORKS ON CONSUMPTION.

1. *Pulmonary Tuberculosis: its Modern Prophylaxis, and the Treatment in Special Institutions and at Home.* The Alvarenga Prize Essay of the College of Physicians, Philadelphia. By S. A. Knopf, M.D.; Physician to the Lung Department of the New York Throat and Nose Hospital, &c. Philadelphia: Blakiston's, Son & Co. 1899. Pp. 343.
2. *La Tuberculose est Curable: Instructions pratiques à l'usage des Familles.* Par le Dr. E. Ribard. Paris: Carré et Naud. 1900. Pp. 170.
3. *Consumption; its Nature and Treatment, with a Chapter on Bacteria and Antiseptics.* By William H. Spencer, M.D., M.R.C.P. Lond.; Consulting Physician to the Bristol Royal Infirmary, &c. London: H. J. Glaisher. 1900. Pp. 83.

1. Dr. Knopf's essay is worth reading; it contains a vast amount of information on a subject with which every medical man is constantly being brought into contact, and the information which it contains is not merely on these points which are mentioned in every text-book, but, on the contrary, its most valuable portions relate to matters on which medical men often are more or less ignorant.

The book is thoroughly practical; theoretical matters occupy but little space in it. The earlier chapters relate to the modes of infection and the means of guarding against the disease. The author writes strongly on the subject of the dangers of inhaling dried sputum. He has devised an excellent pocket sputum-flask, of which illustrations are given. The various means of prophylaxis are discussed, and although some of them might possibly be looked on as counsels of perfection, still we must admit that all the measures advocated by Dr. Knopf would, if adopted, tend to lessen disease and to prolong life.

A large and important section of the work is a description of various sanatoria and hospitals for tubercular patients. Dr. Knopf has visited more than thirty of these institutions, both in Europe and in America. His descriptions are in most cases accompanied by excellent engravings reproduced from photographs, which show in some instances the exterior and surroundings of the building; in others the wards or verandahs—"sun parlours," they are called, in some places. Dr. Knopf next describes what he thinks an ideal sanatorium ought to be.

There are chapters on aero- and hydro-therapeutics. The author has found his patients have derived benefit from the use of a pneumatic cabinet, in which the body is exposed to a rarefied atmosphere, while the patient breathes through a tube air at the ordinary pressure.

Dr. Knopf's chapters on treatment are more of the nature of a review of the various modes of treatment practised by the authorities at different sanatoria than a statement of any special mode advocated by himself. All his remarks on the subject are characterised by common sense, and we are glad to see that he has not become infatuated by the claims of the latest specific. He has no belief in any of the tuberculin products.

He calls attention to the great need for sanatoria for the phthisical poor. He states that in Germany the State sends many poor patients to these institutions, and he makes the suggestion that the State should inaugurate a system of insurance against tuberculosis. In case of the insured becoming affected with the disease, funds would then be available for

the purpose of sending him to a suitable institution. The work is a mine of information on a most important subject.

On one point, however, we must differ from Dr. Knopf. In speaking of tuberculosis and marriage he writes—"There are times when we must deviate from the iron rule not to allow a tuberculous patient to marry. If we are in the presence of a young, highly impressionable woman in the first stages of pulmonary tuberculosis who is engaged to be married, it would be cruel and unwise to put a stop to the union. The consequent sorrow brought upon this young woman would simply mean hastening a fatal termination of her disease, while as a happily married woman she has a fair chance of getting well." We must protest against this doctrine. We hold that it is never right to do evil that good may come of it, and we believe that it is always wrong for a doctor to allow a person, male or female, to marry in any active stage, even incipient, if he or she is consumptive.

2. Dr. Ribard writes a popular book on consumption, setting forth the aspects of the subject which it is important that the public should be familiar with, and leaving almost wholly untouched matters which concern only medical men. Thus much space is devoted to predisposing causes, to the means of avoiding the disease, to the clothing, diet, &c., of consumptives, while medical treatment is almost passed over.

The book is written from a sound and scientific standpoint, and is to be highly commended.

3. Dr. Spencer's little book is based upon lectures delivered at the Bristol Royal Infirmary, and has now been published "to instruct the intelligent and educated public." We read carefully to ascertain what instruction was to be administered to the "intelligent and educated public," and on page 62 we found what appeared to us (and possibly to the author) the most important paragraph in the book:—

"*The Author's Method.*"

So the paragraph is headed. But when we read on to find out Dr. Spencer's special method of treatment we found only a footnote referring us to another work by the same author. Evidently the "intelligent and educated public" are to be

instructed gradually, and we should not be surprised if the author hoped that some of them might be induced to apply to him for verbal or other personal instruction. In short, we look on the book as an elaborate advertisement.

Conty's Practical Guides. The Paris Exhibition of 1900. Paris: Conty, 12 Rue Auber. 1900. Pp. 116.

INTENDING visitors to the great Parisian "World's Fair" of 1900 will do well to invest one shilling in this useful, nay indispensable, guide to the Exhibition.

The only fault we have to find with the book is the smallness of the print. This was perhaps a necessary evil, because of the vast amount of information which had to be condensed into a small space. The "Guide" is of very convenient size, $3\frac{1}{2}$ inches wide by $5\frac{3}{4}$ inches in length.

We may add that this booklet is freely illustrated, and contains excellent coloured maps both of Paris and of the Exhibition.

An Evening with Punch. London: Bradbury, Agnew & Co. MCM. Pp. 190.

THE volume before us is "dedicated to the unfortunate Man, Woman, or Child, in whose home there is not a set of the *Punch* Volumes." The book is well described as a selection from the "First Fifty Years of *Punch*," "of a few of the Pictures, some of the Wit, and some of the Wisdom, with which the Volumes of *Punch* abound."

Lovers of *Punch* (and where are they not to be found?) will rejoice to be reminded of the jokes which caused them such pleasure in the years that are gone. Many of the historic cartoons appear almost prophetic in the light of to-day's events. The type and setting are excellent.

No more attractive volume could be upon the reading table in the doctor's waiting room than this marvellously cheap and most entertaining *rechauffé* of *Punch*.

PART II.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

Irish Medical Schools' and Graduates' Association.

The Annual Summer Meeting of the above Association was held at the Higher Grade School, Ipswich, on Wednesday, August 1st, 1900. In the absence of the President (Inspector-General Lloyd, M.D., R.N.) the chair was taken by Dr. Macnaughton-Jones, Ex-President. There was a large attendance of members, including Sir John W. Moore, President, R.C.P.I.; Dr. P. S. Abraham, Professor W. H. Thompson, M.D. (Belfast); Dr. Esler, Professor R. J. Anderson (Galway), Dr. T. M. Dolan (Halifax), Dr. Cecil Osburne (Norwich), Dr. J. J. Macan, Dr. W. J. Smyly (Dublin), Dr. Douglas, and the Provincial Honorary Secretary, Dr. J. Stewart (Clifton).

The Council reported the completion of the arrangements in reference to the Arnott Gold Medal, which has been given by Mr. David Arnott in memory of his late father, Sir John Arnott, Bart., and which is to be awarded annually to such Irish medical graduates or diplomates as shall be decreed by the Council to have pre-eminently distinguished themselves by some act of heroism in civil, naval, or military life, or by some achievement in medicine, surgery, or medical research.

The Chairman, in referring to this generous gift, stated that Mr. David Arnott had most courteously complied with all the requests of the Council in reference to the legal details of the deed by which the medal had now been permanently endowed. He (the Chairman) wished to emphasise the fact that those qualified for the distinction were not to be confined to members of their Association, but that the medal might be awarded to any Irish medical graduate or diplomate whom their Council might adjudge worthy. The first award would probably be made before the next festival dinner.

Sir John W. Moore, having remarked on the rare liberality and patriotism displayed by the son of that late much-esteemed Irishman, Sir John Arnott, in this matter, and above all on the evidence it afforded of the high estimation in which the donor held the medical

profession generally, and especially the alumni of the Irish schools of medicine, concluded by moving :—

"That the heartiest thanks of the Association be and are hereby accorded to Mr. David Arnott for his generous gift of the gold medal endowed by him in memory of his late father, Sir John Arnott, Bart."

Dr. Dolan seconded the resolution, which was carried with acclamation.

The Provincial Honorary Secretary, Dr. James Stewart, stated the views of the Council on the question of restriction of honorary appointments in certain English hospitals to the diplomates of two specially-favoured colleges, and gave a *résumé* of what had already been done in the way of abolishing such out-of-date monopoly.

Dr. Douglas proposed, Dr. Esler seconded, and it was carried unanimously :—

"That this meeting hopes that the Council will, as soon as possible, proceed actively with their efforts to reduce the number of English public hospitals in which the fellows (by examination) of Irish colleges are not now eligible for honorary appointments on the staff."

It was announced that the Association had determined to entertain Field-Marshal Lord Roberts on his return from South Africa at a special banquet to be held in London, the date to be probably in the last week of November.

A vote of thanks to the Chairman terminated the proceedings.

The Association has of late years been endeavouring, and with some success, to grapple with a grievance which seriously affects the position of Irish graduates and diplomates practising in England. By an almost universal rule no candidate is eligible for an appointment on the honorary staff of an English hospital unless he hold the diploma of the Royal College of Physicians of London in the case of a medical, or the diploma of the Royal College of Surgeons of England in the case of a surgical, appointment. Previous to the Medical Act of 1858 the advantage thus given to these two colleges may have had some justification ; but undoubtedly the subsequent retention of such exclusive rules has perpetuated an unjustifiable monopoly. An open door is the spirit of the day.

In consequence of the efforts made to remedy this injustice the excluding rule has been repealed at the Bristol General Hospital, the Hastings and East Sussex Hospital, the Sussex County Hospital (Brighton), and St. Peter's Hospital for Stone, London. An attempt was made to establish the monopoly at the Bristol Royal Infirmary,

but failed owing to representations laid before the governors of that institution by the Association.

At the instance of the Association, also, Lord Sandhurst's Committee of the House of Lords entered its protest against the monopoly of which we complain. It therefore behoves every Irish graduate or diplomate to join the ranks of an Association which has so much at heart their interests, and which needs only funds to carry to a successful issue the attack on a monopoly which is both an anachronism and an injustice.

RUPTURE OF THE GALL BLADDER.

M. Schwartz brought before the Société de Chirurgie the case of a man who had in his right hypochondrium a fluctuating tumour the size of a big head. Some time before coming under observation he had received a violent blow in the region. M. Humbert diagnosticated a peritoneal cyst, due to a rupture of the gall bladder or the biliary ducts. M. Humbert performed a laparotomy, and found a pouch containing more than two pints of sero-sanguineous fluid. He emptied, drained, and cleaned it. Twenty-four hours afterwards the patient was seized with violent pains in the right iliac fossa, and presented all the symptoms of a general infectious peritonitis, to which he succumbed in a few hours. The autopsy showed that the peritoneal pouch was clean; there was no intestinal occlusion. What was the matter? A general septic peritonitis. The microscope revealed the existence of fibrous tissue, the results of a blood clot. The peritonitis was the result of a cyst produced by the rupture of the gall bladder.—*Gazette des Hôpitaux.*

EXPLOSION CAUSED BY MIXING CHLORATE OF POTASSIUM AND SACCHARINE IN A TOOTH-POWDER.

The Editor of *Lyon Medical*, July 29, 1900, recalls an incident reported by M. Créquy to the "Société Thérapeutique" in 1894. M. Créquy prescribed the following formula for a dentrifrice—chlorate of potassium, 5; calcined magnesia, prepared chalk, borax, of each 10; essence of peppermint, 2 drops: so far so good, but to make his tooth-powder more aseptic, M. Créquy added 0·5 of saccharine. The compounder, rubbing the chlorate of potassium and saccharine together in a mortar, produced a violent explosion and burned his hands. Moral: Do not handle chlorate of potassium and saccharine at one and the same time.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Edward H. Bennett, M.D., F.R.C.S.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF PATHOLOGY.

President—A. C. O'Sullivan, M.D.
Sectional Secretary—E. J. McWeeney, M.D.

Friday, February 23, 1900.

The President in the Chair.

Note on the Effect of Certain Varieties of the Nutrient Medium on the Growth of the Typhoid Bacillus.

The Secretary (Professor E. J. McWeeney, M.D.) stated that the results of a series of experimental cultures made by him, and exhibited last meeting, went to show that (*a*) the growth improved with increasing addition of $\frac{N}{10}$ NaOH to the unneutralised gelatine up to the beginning of alkalinity (indicator phenolphthalein); (*b*) the addition of salt, in quantities varying from 0·1 to 1 per cent., to the fully neutralised gelatine (same indicator) made no difference in the amount of growth; (*c*) the omission of both salt and peptone exercised no appreciably unfavourable influence on the growth in gelatine made with meat decoction; (*d*) addition of quantities of phenol to gelatine in the proportion of ·05 to ·5 per cent. exercised an inhibitory influence on all growths when the addition exceeded ·07 per cent.; between ·05 and ·07 the effect was to check the anaerobic growth; and (*e*) Parietti's solution added to ordinary bouillon suppressed the growth of typhoid, when B. coli was also present. The addition of 9 drops (0·3 c.c.) to 10 c.c. bouillon, to which were subsequently added a few drops of a mixture containing both typhoid and B. coli (*e.g.*, bile from a patient dead of typhoid), caused such retardation of the growths produced by plating out the tube on gelatine as to make them closely resemble true typhoid colonies. Tests, however, proved that nothing but B. coli grew in the Parietti's tube, although ordinary agar plates from the same material yielded an abundance of typhoid colonies. It

was on the suppression of typhoid by the Parietti test that the speaker desired to lay special stress.

Histology of Tuberculosis of Intestines and Liver.

The SECRETARY (Professor McWeeney) showed naked-eye and microscopical preparations of this condition taken from a patient in Dr. Dempsey's ward at the Mater Misericordiæ Hospital, who had died of diarrhœa due to tuberculous enteritis. The floor of the very extensive ulcers was composed of granulation tissue consisting of cells with simple and polymorphous nuclei, but seemingly devoid of giant cells. Enormous multitudes of tubercle bacilli were lying between these cells, and were often actually in contact with, but not within, them; yet the tissue *showed practically no sign of caseation*—a remarkable fact in view of the extensive areas of caseation met with so commonly in tuberculous lymphatic glands, where even the most careful examination fails to reveal a single bacillus. The toxin that produces caseation might conceivably be contained within the bacillary bodies, and only become free by their breakdown. This, at any rate, would be an explanation of the frequent want of association between demonstrable bacilli and extensive caseation. The liver sections constituted a classic object for the study of the histogenesis of tubercle, showing as they did tubercles in the very earliest stage of development, when they consisted of only a few epithelioid and lymphoid nuclei. As the result of a very careful examination of a number of sections, exhibitor had arrived at the conclusion that many of the tubercles began by proliferation of the nuclei of intra-lobular capillary endothelium. The products of such proliferation were the "epithelioid" cells, with which a certain number of unenucleated "lymphoid" elements were *ab initio* associated. A certain amount of fibrin was present from the very commencement, and formed a reticulum between the cells of the young tubercle. The first effect on the surrounding liver cells was compression and flattening. As the result of careful study he had arrived at the conclusion that the hepatic cells immediately adjoining the tubercle underwent metaplasia, and became converted into "epithelioid" elements. The giant cells began to make their appearance when the tubercle attained a diameter of 0·2 mm.; between 0·1 and 0·2 mm. giant cells were absent. They were at first no bigger than an epithelioid cell, but were characterised by a more distinct margin and a plurality of nuclei, which were the closer packed the younger the giant cell. He had convinced himself that in this case at least the multiplication of

nuclei took place either by direct division or by a sort of sprouting. He had failed to observe mitoses in young giant cells.

The PRESIDENT (Dr. A. C. O'Sullivan) said if he understood the first experiment on the typhoid bacillus rightly, it was really decrease of acidity that was being estimated. It would be interesting to know if a further condition of alkalinity would make the growth go off, or possibly make a stronger growth. The observation that phenol acted first on the anaerobic growths might be explained by the fact that typhoid bacilli are what are called facultative anaerobes—that is, their natural mode of growth is aerobic, and their anaerobic growth is, therefore, strained, and the inhibitory drug acts first on the restrained kind of growth. He could corroborate Dr. McWeeney's results as regards Parietti's solution, as he had frequently observed that B. coli will grow in Parietti's broth in stronger solutions than typhoid—that is to say, if they had two sets of tubes side by side, the typhoid tube would remain clear, while the B. coli tube of the same strength would produce a growth. The method of Parietti was very useful for the analysis of water, but was entirely useless for analysing milk for the typhoid bacillus, because there were so many organisms in milk, standing a mixture of hydrochloric acid and carbolic acid better than the typhoid bacillus. Speaking of the tubercular lesions examined, he said the case in which he found more tubercle bacilli than in other cases was a case of very acute pulmonary tuberculosis, a rather rare form, in which the lung was invaded by an exudation, mainly serous, and on inspection the lung did not appear as if tuberculous at all. The case occurred in a child, and death was very rapid. There were no tubercles, no giant cells, no caseation, but the amount of tubercle bacilli found in the alveoli was enormous, so that in that case a rapid course seemed to have been produced by a large number of bacilli.

DR. E. J. MCWEENEY, in reply, said he agreed with the statement that Parietti's solution was of no use for the analysis of milk. On plating out with gelatine they got a number of things which they could not say definitely to be true B. coli or pseudo-coli. He acknowledged the justice of the correction with regard to the reaction—he should have said decrease of acidity.

Corneal Dermoid Tumour or Patch.

MR. ARTHUR BENSON and DR. H. C. EARL described and showed sections of a dermoid tumour removed from the globe of a child aged four years. The growth straddled the cornea-scleral junc-

tion, but extended more on the cornea than on the sclerotic, and occupied the whole thickness of the cornea. It was only slightly raised above the surrounding tissues, and was of a creamy-white colour, and slightly rough, or rather unpolished on the surface. It grew, contrary to the usual custom, at the inferior nasal side, and extended almost to the corneal apex. The sections showed that it was an island of true skin, consisting of—(1) an epidermis, showing a stratum spinosum, a stratum granulosum, and a stratum corneum, the last being very thin; the epidermis merges into the corneal epithelium near the edge of the tumour. (2) A derma of very dense connective tissue, with very short, broad papillæ. (3) A layer of adipose tissue beneath this. Most sections contain hairs and badly-developed sebaceous glands; in some there are sweat glands; there is no corneal tissue present, though the growth was excised down to the posterior elastic lamina. It had been removed because of the irritation it produced, and because the parents were of opinion that it was growing larger. The causes most usually assigned for the occurrence of these growths were stated to be an arrest of development; fœtal invagination of the external germinal layer (Remak), or a circumscribed adhesion between the amnion and the surface of the eyeball (von Duyse).

Dr. Walton Brown (Belfast) asked what sort of tissue was the result of healing. He remembered a similar case about four months ago, in which the wound filled up with granulation tissue, which he had great trouble in treating, the only thing keeping the tissue in subjection being nitrate of silver. He inquired how long it took the patient to get well, as in his case it took about three months.

Mr. Benson, in reply, said he had not referred to treatment and healing of the case on account of this being a pathological section. It took, however, about two weeks to heal up, which it did without any undue irritation, and the resulting cicatrix was a perfectly smooth leucoma such as they would have after an ulcer. It was not cockled in the least, nor was there the slightest sign of granulation tissue, and he could only assign this result to the use of xeroform. It had been two or three months done, and there was not the slightest sign of bulging of the cicatrix, which he thought would have been likely to have occurred.

The Scope of X-rays in Dental Pathology.

Mr. George J. Goldie, in a communication on the above subject, demonstrated the extreme usefulness of the X-rays in obscure

conditions where other methods of diagnosis had failed. The older methods of visual examination—palpation and probing—along with the history of the case, were often insufficient, and in such cases the Röntgen rays could be employed with almost certain results. The conditions in which he found the new agent most valuable were :—

(1) Fracture and dislocation of teeth in the jaw.

(2) Fracture of the jaw itself.

(3) The diagnosis of inflammation round the roots of teeth; alveolar abscess.

(4) The diagnosis of inflammation round the roots of teeth, giving rise to symptoms remote from the seat of lesion—neuralgia, trismus, &c.

(5) The treatment of impacted and in-coming wisdom teeth.

(6) The normal eruption of the permanent teeth following the temporary or milk teeth.

(7) The abnormal eruption of the same.

(8) The absence or presence of any missing tooth in the jaw when its eruption has been abnormally delayed.

(9) The regulation of teeth malposed in the jaw.

(10) Many purely clinical dental conditions which could only be mentioned without being described.

(11) Exostosis of roots of teeth.

(12) Foreign bodies in the antrum of Highmore.

He illustrated each of these conditions by lantern slides of X-ray photographs taken in cases from practice, of which, during nearly four years, he had done over 300. His conclusions were that in dental practice was afforded by X-rays a means of (α) corroborating or disproving existing diagnosis; (β) of establishing a diagnosis where that had not otherwise been found possible; and (γ) of demonstrating these to the patient. The credit of having first used X-rays in dental pathology was due, at all events in Ireland, to Dr. Richard Theodore Stack.

Mr. William S. Haughton introduced his remarks by expressing his indebtedness to Dr. Theodore Stack and Dr. Goldie for their kindness in asking him, early in 1896, to undertake the study of this special application of the X-rays, and for the many opportunities they had afforded him for so doing. In his last communication before the Academy on the subject of X-ray work, amongst other applications, Mr. Haughton had briefly referred to the following dental conditions :—(1) Normal eruption of teeth, (2) abnormal eruption, (3) caries, (4) abscess, (5) exostosis, and

(6) the study of the results of treatment, illustrating his remarks by lantern slides. From the outset the study of its application in dentistry proved fascinating, because the root and neck of an *erupted tooth*, or the root, neck, and crown of an *unerupted* tooth, were objects embedded in bone, invisible and intangible by ordinary modes of examination, which would not partially or completely interfere with the normal functions of the tooth. The new mode of examination seemed likely to bring many advantages both to operator and patient. Amongst the preliminary mechanical and physical difficulties in this special application of the process were mentioned :—

(1) To obtain a photographic film which would accommodate itself to the varying curve of the alveolar arch.

(2) To enclose this film in envelopes impervious to light and moisture, but permeable to X-rays.

(3) Having satisfied the above conditions, to study accurately the best anatomical position in which to place the film so as to catch the X-ray shadow of the particular tooth under examination.

(4) To obtain a *clamp* to hold film rigidly in patient's mouth.

(5) To fix patient's head.

(6) To ascertain the best position and working distance of X-ray tube from film.

(7) Duration of exposure ; and

(8) Last, and by no means least, to acquire large experience of X-ray dental negatives, essential in this as in all other departments of skiagraphy for *correct interpretation.*

Mr. Haughton then described in detail how these difficulties had been overcome by the use of " cut celluloid " photographic films, enclosed in orange and black paper bags, which were again enclosed in an india-rubber bag specially manufactured to his order, as most samples of rubber contained so much sulphur in their composition as to render them very opaque to X-rays. These films had to be cut small enough to go inside patient's mouth, and the best position in which to place the film for each individual tooth required a careful study of the anatomical relations of each tooth to its surrounding alveolus. A clamp to hold the film in position was most essential, and he had found no method answer so well as the finger of a skilled and steady assistant in the mouth, while the other hand made counter-pressure on the head outside. This, combined with the headrest of a dental chair, had proved very satisfactory. The best working distance of tube from film was 8–10 inches, and usual exposure 90 seconds to 2 minutes. The apparatus used

was an Apps' 8″ Induction Coil; electrical power, Storage Co.'s Batteries, giving 12 volts and 9 ampères, and Newton's Focus Tubes. In general terms, young teeth required shorter exposures than in adults; the contrast between the shadow of tooth and alveolus was more marked in young mouths; and in adult life and old age the density of the angle of the lower jaw approximated to that of the wisdom tooth.

[A practical demonstration of the process was given during the course of the meeting, in which Mr. Haughton skiagraphed an *unerupted canine* tooth in a patient aged twenty years. The skiagram was taken, developed, and projected as a lantern slide, the whole process occupying just half an hour.]

The PRESIDENT said the taking of a skiagram would save patients having teeth drilled to see whether the nerve was alive or dead.

Spontaneous Rupture of the Œsophagus.

The SECRETARY (Professor McWeeney) exhibited a specimen of this rare condition. Patient, an alcoholic male, aged forty, had retched violently before going to his work. His face and neck became swollen and his breathing difficult, so that he was forced to go to the Mater Hospital, where he died a few hours after admission. At the autopsy there was enormous swelling of the face and neck, due to subcutaneous emphysema. The origin of this was traced into the posterior mediastinum, the contents of which were coated with grey pultaceous matter, which could be seen escaping through a longitudinal rent half an inch long in the anterior surface of the œsophagus just above the diaphragm. The immediate cause of death was intense œdema of both lungs, associated with failure of a fatty right heart.

Cyclopian Fœtus, with Supernumerary Fingers and Diaphragmatic Hernia.

DR. H. C. EARL exhibited a specimen of above. There is a large encephalocele in the frontal region. It contains the forebrain, which is undivided, only showing a slight groove at its posterior extremity. The surface shows no convolutions. Behind, and partly covered by the forebrain, is a mass of tissue which appears to represent the optic thalami. From this the optic tracts arise, and form the optic commissure, from which a single optic nerve comes off. There is a single eye lying in the middle line; the olfactory lobes are absent; the frontal, ethmoid, and nasal bones are absent, as are the vomer and nasal septum; the nose and the nasal passages

are absent; each hand has an additional digit on the ulnar side; that on the left side has two phalanges and a nail, that on the right side is a rounded mass about the size of a pea, attached by a narrow pedicle to the little finger; it has no nail. There is a large opening in the diaphragm on the left side, through which the greater part of the abdominal viscera project into the thorax. The heart, lungs, and thymus gland lie on the right side of the thorax. The left side of the thorax contains a part of the left lobe of the liver, the spleen, the greater part of the stomach, the cæcum, and the greater part of the small and large intestines.

Fœtus with Hernia Funiculi Umbilicalis.

Dr. H. C. Earl said the hernia is globular in shape, and $10\frac{1}{2}$ inches in its greatest circumference. It contains the whole liver and a considerable part of the intestine. The umbilical cord is attached to the left side of the tumour.

The Section then adjourned.

ARMY MEDICAL SERVICE.

The Director-General has favoured us with the following list of successful candidates for Commissions in the Royal Army Medical Corps at the examination held in London during August, 1900:—

		Marks			Marks
1	McGrigor, H. J.	2,779	6	Myles, C. D.	2,040
2	Goodwin, W. R. P.	2,612	7	Hunt, R. N.	1,986
3	Brunskill, J. H.	2,303	8	Howley, H. E.	1,916
4	Duffey, A. C.	2,231	9	Fawcett, R. F. M.	1,855
5	Gibson, A. W.	2,205			

LITERARY NOTES.

The *Journal of Surgical Technology* is the title of a new periodical to be published monthly, beginning July 1, 1900. It will be devoted to the consideration of the technic of surgical procedures at a subscription price of one dollar a year. Valuable premiums are offered with the first subscriptions. Address the Technique Publishing Co., 404 East 14th Street, New York City, N. Y., for sample copy.

UREO-SULPHATE OF QUININE.

Ureo-sulphate of quinine is a combination of hydrochloride of urea and the hydrochloride of quinine. It is employed in doses of 0·60 centigrammes in cases of paludism and in intermittent fevers.—*Journ. de Méd. de Paris.*

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir J. W. Moore, B.A., M.D. Univ. Dubl.;
P.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four weeks ending Saturday, August 11, 1900.

IRELAND.

Twenty-three Town Districts.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending August 11 in the Dublin registration area and the twenty-two principal provincial urban districts of Ireland was 18·9 per 1,000 of their aggregate population, which, for the purposes of these returns, is estimated at 1,062,188. The deaths registered in each of the past four weeks, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	July 21	July 28	Aug. 4	Aug. 11			July 21	July 28	Aug. 4	Aug. 14	
23 Town Districts	20·2	18·2	20·3	18·9	19·4	Limerick -	9·8	14·0	11·2	12·6	11·9
Armagh -	14·3	7·1	14·3	0·0	8·9	Lisburn -	12·8	34·1	25·7	21·3	23·5
Ballymena	28·2	11·3	11·3	22·5	18·3	Londonderry	22·0	15·7	12·6	20·4	17·7
Belfast -	19·8	19·3	22·5	18·3	20·0	Lurgan -	27·4	18·2	18·2	4·6	17·1
Carrickfergus	17·5	0·0	17·5	11·7	11·7	Newry -	36·2	12·1	12·1	8·1	17·1
Clonmel -	9·7	19·5	24·3	4·9	14·6	Newtownards	22·7	5·7	5·1	34·0	17·0
Cork -	19·4	19·4	18·0	12·5	17·3	Portadown -	12·4	18·6	18·6	12·4	15·5
Drogheda -	26·6	19·0	22·8	30·4	24·7	Queenstown	11·5	11·5	0·0	28·7	12·9
Dublin - (Reg. Area)	23·4	18·3	23·3	23·0	22·0	Sligo -	10·2	20·3	15·2	20·3	16·5
Dundalk -	20·9	12·6	8·4	50·3	23·0	Tralee -	16·8	11·2	28·0	5·6	15·4
Galway -	22·7	34·0	11·3	7·6	18·9	Waterford -	11·9	15·9	8·0	11·9	11·9
Kilkenny -	4·7	23·6	9·4	14·2	13·0	Wexford -	9·0	9·0	27·1	4·5	12·4

The deaths from the principal zymotic diseases registered in the 23 districts during the week were equal to an annual rate of 2·4 per 1,000—the rates varying from 0·0 in thirteen of the districts to 11·3 in Ballymena. Among the 126 deaths from all causes registered in Belfast are one from measles, 8 from enteric fever, and 7 from diarrhœa.

DUBLIN REGISTRATION AREA.

In the Dublin Registration Area the births registered during the week amounted to 149—80 boys and 69 girls; and the deaths to 161—92 males and 69 females.

Deaths.

The deaths, which are one over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 24·0 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the area, the rate was 23·0 per 1,000. During the 32 weeks ending with Saturday, August 11, the death-rate averaged 30·8, and was 2·7 over the mean rate for the corresponding portions of the 10 years 1890–1899.

Twenty-five deaths from zymotic diseases were registered during the week, being 8 over the number for the preceding week, but 12 under the average for the corresponding week of the last 10 years. They include one from whooping-cough, 3 from diphtheria, 19 from diarrhœa, and one from erysipelas. Eighteen of the 19 deaths from diarrhœa were of children under one year old.

Tuberculosis caused 36 deaths—including 24 from phthisis, 6 from tabes mesenterica, 5 from tubercular meningitis, and one from scrofula.

Diseases of the respiratory system caused 15 deaths, being one over the number recorded during the preceding week, and also one above the average for the corresponding week of the last 10 years. They include 9 from bronchitis and 3 from pneumonia.

The deaths of 5 children under one year of age (including one infant under one month old) were ascribed to convulsions.

Five deaths were caused by apoplexy, 2 by epilepsy, 7 by other diseases of the nervous system (exclusive of convulsions), and 12 by diseases of the circulatory system.

Five accidental deaths were registered.

STATE OF INFECTIOUS DISEASE IN DUBLIN.

(1.) Cases of Infectious Diseases Notified to the Public Health Committee of the Corporation.

Sir Charles A. Cameron, C.B., Medical Superintendent Officer

of Health for the City of Dublin, has furnished the following information regarding the number of cases of Infectious Diseases in the City of Dublin, notified under the "Infectious Diseases (Notification) Act, 1889":—

Week ending	21st July,	...	... 77 cases.
„	28th July,	...	... 88 cases.
„	4th August,	...	... 53 cases.
„	11th August,	...	... 62 cases.

Of the 62 cases notified, 10 were erysipelas, 19 enteric fever, 7 scarlatina, 7 measles, meningitis nil, 14 diphtheria, and 4 continued fever.

(2.) Cases of Infectious Diseases under Treatment in Dublin Hospitals.

Eight cases of scarlatina were admitted to hospital, 7 were discharged, and 50 remained under treatment at the close of the week. This number is exclusive of 16 patients in Beneavin, the Convalescent Home of Cork-street Fever Hospital.

Eleven cases of enteric fever were admitted to hospital, 3 were discharged, and 54 remained under treatment at the close of the week.

Eleven cases of diphtheria were admitted to hospital, one was discharged, 2 died, and 15 remained under treatment at the close of the week.

Four cases of measles, and one of typhus were also admitted to hospital during the week.

ENGLAND AND SCOTLAND.

The mortality in thirty-three large English towns, including London (in which the rate was 20·5), was equal to an average annual death-rate of 20·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·0 per 1,000, the rate for Glasgow being 17·8, and for Edinburgh 17·0.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of July, 1900.

Mean Height of Barometer, - - -	29·985 inches.
Maximal Height of Barometer (7th, at 9 p.m.),	30·343 „
Minimal Height of Barometer (1st, at 9 a.m.),	29·562 „
Mean Dry-bulb Temperature, - -	62·2°.
Mean Wet-bulb Temperature, - -	58·5°.
Mean Dew-point Temperature, - -	55·4°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·442 inch.
Mean Humidity, - - - -	79·3 per cent.
Highest Temperature in Shade (24th), - -	78·0°.
Lowest Temperature in Shade (8th), - -	47·1°.
Lowest Temperature on Grass (Radiation) (8th),	42·0°.
Mean Amount of Cloud, - - -	61·2 per cent.
Rainfall (on 15 days), - - -	4·519 inches.
Greatest Daily Rainfall (27th). - -	1·873 inches.
General Directions of Wind, - - -	W., S.W., N.W.

Remarks.

A very warm but unsettled month, which closed with a great rainstorm. The heat in France and England was excessive between the 10th and the 28th. In London the mean temperature of the fortnight ending with Saturday, the 28th, was 71·6°, and on the 16th, 19th, 20th, and 25th the thermometer rose to or above 90° in the shade. In Paris a maximum of 100° was recorded on the 20th. The South of Ireland enjoyed fine, summerlike weather, and in Cork the rainfall was only 1·56 inches, or 1·20 inches below the average for July. In Dublin, on the contrary, heavy rains fell at times, and on the 27th 1·873 inches were measured in the city and 2·140 inches in the Phœnix Park. The total amount of sunshine was 188·7 hours in the Phœnix Park, and it was estimated at 219 hours in the city.

In Dublin the arithmetical mean temperature (63·4°) was above the average (60·6°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 62·2°. In the thirty-five years ending with 1899, July was coldest in 1879 ("the cold year") (M. T.=57·2°). It was warmest in 1887 (M. T.=63·7°); and in 1868 ("the warm year") (M. T.=63·5°). In 1899 the M. T. was 62·2°.

The mean height of the barometer was 29·985 inches, or 0·070 inch above the corrected average value for July—namely, 29·915 inches. The mercury marked 30·343 inches at 9 p.m. of the 7th,

and fell to 29·562 inches at 9 a.m. of the 1st. The observed range of atmospheric pressure was, therefore, only 0·781 inch.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 62·2°, or 4·6° above the value for June, 1900. Using the formula, *Mean Temp.* = *Min.* + (*Max.*—*min.* × ·465), the value was 62·9°, or 2·7° above the average mean temperature for July, calculated in the same way, in the twenty-five years, 1865–89, inclusive (60·2°). The arithmetical mean of the maximal and minimal readings was 63·4°, compared with a twenty-five years' average of 60·6°. On the 24th the thermometer in the screen rose to 78·0°—wind, S.S.W.; on the 8th the temperature fell to 47·1°—wind, W.N.W. The minimum on the grass was 42·0° on the 8th.

The rainfall was 4·519 inches, distributed over 15 days. The average rainfall for July in the twenty-five years, 1865–89, inclusive, was 2·420 inches, and the average number of rainy days was 17·2. The rainfall, therefore, was much above, whereas the rainy days were below the average. In 1880 the rainfall in July was very large—6·087 inches on 24 days; in 1896, also, 5·474 inches fell on 18 days. On the other hand, in 1870, only ·539 inch was measured on 8 days; in 1869, the fall was only ·739 inch on 9 days; and in 1868 ·741 inch fell on but 5 days. In 1899, 3·122 inches fell on 12 days.

High winds were noted on 6 days, but never attained the force of a gale. Temperature reached or exceeded 70° in the screen on 14 days. In July, 1887, temperature reached or exceeded 70° in the screen on no fewer than 17 days. In 1888, the maximum for July was only 68·7°.

There were thunderstorms on the 2nd, 3rd, 20th, and twice on the 28th. Thunder occurred on the 29th. Lightning was seen on the 27th. Hail fell on the 3rd and 20th. The atmosphere was foggy on the 11th and 21st.

The rainfall in Dublin during the seven months ending July 31st amounted to 17·609 inches on 129 days, compared with 14·416 inches on 107 days in 1899, 13·060 inches on 106 days in 1898, 15·600 inches on 125 days in 1897, 13·328 inches on 102 days in 1896, 16·785 inches on 96 days in 1895, 7·935 inches on 80 days in 1887, and a twenty-five years' average of 14·733 inches on 112·6 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in July was 5·140 inches on 15 days, compared with 3·480 inches on 14 days in 1899, 1·145 inches on 6 days in 1898, 1·625 inches on 10

days in 1897, 5·726 inches on 16 days in 1896, 3·680 inches on 16 days in 1895, and 3·805 inches on 19 days in 1894. Of the total rainfall 1·640 inches fell on the 27th, and ·680 inch on the 28th. The total fall since January 1 has been 23·331 inches on 120 days, compared with 22·990 inches on 109 days in 1899, 14·645 inches on 94 days in 1898, 19·750 inches on 116 days in 1897, 13·082 inches on 77 days in 1896, 17·950 inches on 83 days in 1895, and 21·186 inches on 115 days in 1894.

At Cloneevin, Killiney, Co. Dublin, the rainfall in July was 4·56 inches on 16 days, compared with a fifteen years' average of 2·416 inches on 15·3 days. On the 27th the rainfall was 1·49 inches. In July, 1899, 3·48 inches fell on 17 days; in 1898, ·840 inch fell on 7 days; in 1897, 1·28 inches fell on 10 days; in 1896, 6·72 inches on 20 days; in 1895, 3·58 inches on 17 days; in 1894, 4·08 inches on 23 days; in 1885, only ·70 inch on 9 days. Since January 1, 1900, 18·38 inches of rain have fallen on 129 days at this station.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall was 3·252 inches on 15 days, compared with 3·232 inches on 13 days in July, 1899; 1·380 inches on 6 days in 1898, and 1·425 inches on 11 days in 1897, 1·063 inches being measured on the 27th, and ·450 inch on the 15th. At this Second Order Station 20·156 inches of rain have fallen on 118 days since January 1, 1900. The maximal temperature in the shade in July was 78·0° on the 24th, the minimum was 45·0° on the 8th.

At the Railway Hotel, Recess, Connemara, Co. Galway, 3·793 inches of rain fell in July on 19 days. The largest measurement in 24 hours was ·800 inch on the 15th. S.W. and W. winds prevailed at this station, where the whole month was unsettled.

DORMIOL.

Dormiol is produced by the action of chloral hydrate on hydrate of amylene. It is a colourless, oily liquid, with a camphoraceous smell, and a density of 1·24. It is sparingly soluble in water, but freely so in alcohol, ether, and the fatty acids. Dormiol is administered in doses varying from half a gramme to two grammes. It is prescribed in oil or in capsules. Metzler employs the following prescription:—℞ Dormiol, 10 grammes; mucilage of gum arabic, 10 grammes; simple syrup, 10 grammes; distilled water, 120 grammes—Make a mixture. One tablespoonful contains a grain of dormiol.—*Gazette des Hôpitaux.*

PERISCOPE.

HYSTERIC LETHARGY, WITH REPORT OF CASES.

G. W. McCaskey, A.M., M.D., relates the following in the *Journ. Amer. Med. Assoc.*:—A deep interest, both lay and professional, has always been manifested in the various states of morbid unconsciousness, especially when not associated with other obvious disturbances of health. Their nature is often obscure, although they can for the most part be regarded either as hysteric or epileptic in character. In 49 cases collected by Dr. C. L. Dana, 26, or 53 per cent., were of hysteric origin, 11, or about 22 per cent., epileptic in character, the remaining 12 being due to other causes. It is to the hysteric that I desire to call special attention, beginning with the report of some cases:—*Case* I.—Mrs. G., aged thirty-seven, married, was referred by Dr. G. B. M. Bower, Oct. 12, 1898. *History.*—Her health had always been good, prior to the present illness, with the important exception that when thirteen years of age she had chorea, and what her physician at that time called "rush of blood to the head," lasting intermittently for nearly five years. Her mother was distinctly emotional in character, and the patient herself had always been subject to occasional emotional disturbances, being especially prone to cry without adequate cause. For some three months she had been suffering from sudden attacks of unconsciousness, lasting from a few minutes to half an hour, or more. During July, 1898, she was in bed two weeks on account of frequency and severity of these attacks, coupled, her physician informs me, with indigestion, to which he says she is occasionally subject, and during which the lethargic attacks are always aggravated. During the July exacerbation she says her heart always felt as though it had stopped beating during the attack, and that breathing was interfered with by peculiar chest sensations; but Dr. Bowers has had an opportunity of examining her during some of these paroxysms, when she complained of cardiac distress, and dyspnœa, and found the heart action and pulse perfectly normal. The spells of "falling asleep," as she called them, began without any other notable disturbances of health, and at first occurred only once a week, or at longer intervals; they then became more frequent, until they finally occurred as often as twenty or thirty times a day. They were sometimes very brief, lasting only two or three minutes. As a rule she could be awakened by simply touching her with the finger over the hysterogenic zone, which, in this case, was the forehead, and the region just below the eyes, thus including only afferent

fibres of the trifacial nerves. No amount of pressure or manipulation of the neck, limbs, trunk, or ovarian region would awaken her. Occasionally pressure over the above-described hysterogenic zone also failed to awaken her, and she would remain in this condition for half an hour or longer, although she would always make some motor response to pressure over this zone. Several attacks occurred in my office during the first examination. The eyes would suddenly close, and the head incline forward farther and farther, giving the impression that she would fall to the floor. The hands were partially closed, and held in a semiflexed position a few inches above her lap, markedly rigid, but gradually falling by a jerky tremulous motion. During these attacks, each of which lasted from two to five minutes, there appeared to be not only complete anesthesia, but analgesia as well. I ran a pin into the flesh of each hand, as well as into different parts of the limbs and trunk, without eliciting the slighest response in facial expression or otherwise. Manipulation of the limbs with pressure and pinching produced no effect, and a little muscular rigidity was constantly observable. There was no drowsiness preceding or following the lethargic attacks, and, when she emerges from one of them, she clearly remembers what she was doing or saying at the moment the attack developed, but from that moment till the awakening there is a complete interregnum of consciousness, with absolutely no memory of anything that transpired during it. In all the attacks that I saw she awoke with a "start," and with a peculiar smile, as though she had been highly amused. Her general health had not been so good recently. During the last few months her weight had fallen from 160 to 137 pounds, a loss of 15 per cent. Her bowels were regular, and the dejections soft and free; there was no stomach or bowel distress, eructations of gas, or other evidence of gastro-intestinal disease. Neither was there vertigo, tinnitus aurium, or photopsia. The liver and spleen were normal, the heart, perhaps, slightly enlarged, but otherwise normal, and there was no Romberg symptom. The knee-jerks were exaggerated, but there was no ankle-clonus. Ophthalmoscopic examination was entirely negative. There was slight amblyopia, not accurately tested, but the patient said she was unable to see as well as formerly. The total quantity of urine for twenty-four hours was 1900 c.c., the specific gravity 1020; reaction acid, acidity 35 degrees; urea 9 per cent. or 17 grams; total solids 88 grams; no albumen, sugar, or indican. No cutaneous anesthesia could be found. Examination of the visual field showed reversal and marked contraction. Considerable improvement followed a general

line of treatment, including tonics and electricity, but a few weeks later she had a spell lasting some four days, during which time she was unable to open her eyes, nor could they be forced open by any reasonable effort on the part of her attendants. Consciousness remained intact. There are several points of considerable interest in this case, one of especial diagnostic value being the limitation of the visual fields. The fields for blue, red, and green maintained their normal relations. The blue was, as in health, the largest of all the colour fields. Some little importance is also to be attached to the tremulous movements of the eyelids, first pointed out by Charcot, and conspicuous in this case. Two other cases of similar character have fallen under my observation; both patients were women. The first was married, and some thirty-five years of age, and her general health was wretchedly bad. They recurred during a period of several years, until the patient was finally lost sight of. She ultimately died, I have heard, of some gastric or intestinal disease. The other patient was a school girl about sixteen years of age, who had all the stigmata of hysteria, and a rank heredity of hysteric parentage. I saw her in a series of lethargic attacks, or rather almost one continuous attack, lasting over a period of a week or more, with very slight intermissions occurring two or three times. Her recovery was complete, and no recurrence took place so far as I know. There was absolute anæsthesia and analgesia.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Diphtheria Antitoxin.

It may interest our readers to know that the firm of Mr. E. Merck, of Darmstadt and London, have recently succeeded in preparing an anti-diphtheritic serum 1,000 normal—that is to say, a serum containing 1,000 antitoxic units in 1 cubic centimetre. Such a highly concentrated article has so far not been offered by any other maker. The highest degrees of concentration previously supplied were but 250 and quite recently 500 antitoxic units in each cubic centimetre. The more concentrated the serum the better for the physician and patient, since it materially facilitates the administration of high doses in a small volume, and thus precludes all secondary effects which sometimes attend the administration of anti-diphtheritic serum where lower strength preparations are used, as, of course, the weaker the antitoxin the larger the dose will have to be. This very concentrated serum is brought on the market after having been officially tested in the Imperial Institute for Experimental Therapy at Frankfurt on-the-Main.

In Memoriam.

SIR WILLIAM STOKES,

M.D., M.CH. UNIV. DUBL.;

FELLOW AND EX-PRESIDENT ROYAL COLLEGE OF SURGEONS IN IRELAND;

SURGEON-IN-ORDINARY TO HER MAJESTY THE QUEEN IN IRELAND.

With infinite sorrow and regret the many friends and acquaintances of Sir William Stokes learned the sad tidings of his unexpected death at Pietermaritzburg, Natal, on the afternoon of Saturday, August 18, 1900. It will be remembered that Sir William left Dublin on January 4, 1900, *en route* to the seat of war in South Africa as Consulting Surgeon to Her Majesty's Forces. We little thought then that we should see his face no more on earth. Alas! he was fated never to return to his native land, which, like his father and grandfather before him, he loved so well.

The first news of Sir William's death reached Dublin from the Marquis of Lansdowne, Secretary of State for War, on Sunday, August 19. The telegram briefly stated that Sir William had died of "pleurisy" at the Base Hospital, Pietermaritzburg, on the previous day.

Shortly after his appointment as Consulting Surgeon, Sir William Stokes, whose health had latterly much improved, unfortunately caught cold, and the attack was a sharp one. Notwithstanding this, he bravely started for South Africa on the appointed date. The voyage to the Cape proved most beneficial, and he continued in good health until the beginning of June, when he was in hospital for a fortnight with cough and jaundice, the result—in his own opinion—"of overwork, cold, and the 'bully beef' diet." He was then sent down to Durban to recruit. Under date June 28, 1900, he wrote home:—"Thanks to the ideal climate we have here (*i.e.*, at Durban), and the good food, I am getting quite well again, though still weak and easily tired. But next week I hope to get back, as there are cases waiting for me both at Maritzburg and at Newcastle." He added:—"Next month (*i.e.*, July)

I hope to return home, as I am confident the war will be over then, and the journey home will—I am sure—make me as well as ever."

William Stokes was born on March 10, 1839. He first saw the light in his father's house, 50 York-street, Dublin. He was the second son of Dr. William Stokes, F.R.S., Physician-in-Ordinary to Her Majesty the Queen in Ireland, Physician to the Meath Hospital and Regius Professor of Physic in the University of Dublin—a man of world-wide fame as a physician and a genius. His elder brother, born in 1830, is Dr. Whitley Stokes, C.S.I., C.I.E., a Celtic scholar and a late Member of the Legislative Council of India.

Sir William Stokes was educated at the Royal School, Armagh, from which he entered Trinity College, Dublin. His medical training was carried out in the School of Physic in Ireland, the Carmichael School of Medicine, and the Meath and Richmond Hospitals, Dublin. While a student he filled the post of clinical clerk to the physicians of the Meath Hospital. He graduated as Bachelor of Arts in the University of Dublin in 1859, became a Licentiate of the Royal College of Surgeons in Ireland in 1862, and took his degrees in Medicine and Surgery (M.B., M.D. and M.Ch.) in the University of Dublin in 1863. After obtaining these qualifications he spent two years in study in Berlin, Paris, Vienna, and London. Returning to Dublin, Stokes commenced to practise in Clare-street. In 1864 he was elected Surgeon to the Meath Hospital in succession to the late Mr. Josiah Smyly, quickly establishing a reputation as an able and skilful surgeon. He resigned this position in 1868, having been appointed Surgeon to the House of Industry Hospitals, including the famous Richmond Surgical Hospital. In 1869 he married Elizabeth, eldest daughter of the Rev. John Lewis Moore, D.D., Senior Fellow and Vice-Provost of Trinity College, Dublin. By her he had three children—two daughters (one of whom died in infancy) and a son, Aleyn, now a Lieutenant in the Royal Engineers. Wife, son, and daughter survive him, and mourn their irreparable loss.

In Memoriam.

In 1873 Sir William Stokes became a Fellow of the Royal College of Surgeons in Ireland, having already been elected Professor of Surgery in the College School on December 24, 1872. He had previously lectured on Surgery in the Carmichael School of Medicine, which at that time was closely associated with the House of Industry Hospitals both by its interests and through its teachers. On the death of his father, Dr. William Stokes, in 1878, he moved into the house which had been occupied by him for thirty years—No. 5 Merrion-square, North.

Stokes in time became a Member of Council of his College, and had the honour of filling the Presidential Chair in the Collegiate year 1886–1887. In June, 1886, shortly after his election as President, the well-deserved honour of Knighthood was conferred upon him by the Earl of Aberdeen, then Lord Lieutenant of Ireland. But his professional honours extended beyond his own College. In 1881 he was chosen President of the Pathological Society of Dublin. He was twice selected to act as Examiner in the Queen's University in Ireland, and he also served as Examiner in Surgery in the University of Oxford. He had the almost unique distinction of being an Honorary President of four consecutive International Medical Congresses—namely, Berlin, 1890; Rome, 1894; Moscow, 1897; and Paris, 1900.

In 1882, Stokes delivered the Address in Surgery before the British Medical Association at the Jubilee meeting of the Association held at Oxford. The matter of that Address and the manner in which it was delivered established his reputation as an orator, and called forth the warmest encomiums. In 1892 he became Surgeon-in-Ordinary to Her Majesty the Queen in Ireland.

In July, 1888, Sir William Stokes resigned his surgeoncy to the Richmond Hospital, and returned to the Meath Hospital, where he spent the last twelve years of his life in the enthusiastic and sympathetic practice of his profession.

Stokes was an excellent writer. His Introductory Addresses on Surgery were models of English composition. He was the author of probably one hundred contributions

on clinical and operative surgery, which enriched the pages of this Journal as well as those of the *Lancet*, the *British Medical Journal*, the *Medical Press and Circular*, and the "Transactions of the Royal Academy of Medicine in Ireland," the Clinical Society of London, and the Royal Medical and Chirurgical Society of London, of all of which bodies he was a Fellow. His last published work was a touching and truthful memoir of his father, which appeared in 1898 as one of a series of volumes entitled "Masters of Medicine."

In private and social life Sir William had a personality which was all his own. His favourite recreations were music and travelling—the latter assuming a pathetic interest when we remember that he sleeps well more than eight thousand miles from his native land, to which he was so devotedly attached, and of which he was so faithful and loyal a son. Yet be it so—

> "Awake him not, surely he takes his fill
> Of deep and liquid rest, forgetful of all ill."

A short eight months ago, Stokes, like a soldier, responded to the call of Queen and Country to serve as Consulting Surgeon to Her Majesty's Forces in South Africa—now, like a soldier, he has fallen at the post of duty! The enemies this soldier had to meet were not of one nationality more than another, but they were Suffering and Death, whether coming from the ranks of the Boer or of the British, and, as his letters show, when lying side by side beneath his care, it was impossible to say which sufferer from either camp drew forth more of the deep sympathy of his heart.

We deeply mourn him whom we have lost. We treasure as a priceless heirloom the record of a noble life spent in the relief of human suffering and disease. And as we ponder on the heroism and devotion of such a life, the famous words of Cicero come into mind—"Homines ad Deos nulla re propius accedunt quam salutem hominibus dando."

J. W. M.

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OCTOBER 1, 1900.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XII.—*The Delusive Stage of Grave Abdominal Lesions.* By J. S. M'ARDLE, F.R.C.S.I.; Surgeon to St. Vincent's Hospital.

IF there is any subject deserving a separate chapter in the history of modern surgery it is the question which I desire to refer to in this paper. In no class of case with which I am acquainted are there so many pitfalls as in those where intestinal lesions play a prominent part. After days of anxious watching, and when already we have given up all hopes of recovery, the patient, to the great delight of friends and attendants, expresses himself as much relieved; bright looks, clean tongue, and a fall of temperature herald what seems the dawn of convalescence. The physician congratulates himself that his patient has weathered the storm, and taking little heed of the rapid pulse and the bright eye that indicates so much when properly understood, he ventures on a favourable prognosis. This apparent quiet does not last long; 24 to 48 hours' rest is succeeded by intermittent attacks of mental aberration, accompanied by an erratic temperature; then distension of the abdomen becomes more marked, delirium more persistent, and the pulse too quick to be counted, and when least expected the patient passes beyond all reach of

earthly help. This stage, which raises hopes soon to be dashed, has not been dwelt upon sufficiently in the literature of medicine, and I, therefore, bring it under your notice, so that hereafter you may recognise the gravity of the situation, and not be led into expressions of opinion which are registered against you when your professional value is being estimated by the public. I can recall many cases in which my hands have been stayed by the over-anxious attendants, who from want of experience conceived that this betterment which was noticeable to the friends and the relations of the patient was real. My belief is that when this stage arrives it is fatal to delay operation even for a short time. The question is sometimes asked, When should we operate in cases of intestinal obstruction? My answer to this question (after an experience of 20 years of operative work) would be, "At once." My reason for this advice is based upon my observation of the calamitous results of delay, and on the absolute safety of properly conducted abdominal sections. It is my firm conviction that in the absence of some element that would certainly prove fatal without operation there should be no mortality in cases of ordinary laparotomy. In the absence of these conditions I have never seen the operation prove fatal, and I shall bring under your notice cases (of great gravity in which operation has succeeded) that should prove conclusively to you the possibilities there are in the adoption of modern methods of surgical interference. These cases extend over the whole field of abdominal surgery, and include examples of all the phases of intestinal disturbance. Before bringing them under your notice, however, I shall try to set before you the causes of death in such affections, so that you may clearly understand how imperative it is to deal early and vigorously with every case of this class that comes under your care. I am constrained to do this because I feel that it is criminal on the part of any man who undertakes the guidance of patients through serious illnesses of this class not to be aware of the rocks ahead through which we have at times to steer the ship of life. It is only by recognising the dangers that one can surely avoid them; and in reviewing the cases which I shall place

before you I shall endeavour to state clearly the dangers to be apprehended in each class. In the present paper I shall confine myself to the troubles which arise in the different affections of the appendix, and leave for future consideration the other classes of abdominal lesions.

APPENDICECTOMY.

Before detailing the cases separately, I desire to call attention to the method of operation I invariably carry out, unless prevented from doing so by pathological conditions, which occasionally arise in the course of these cases. I open the abdomen in the right semilunar line, going directly through all the layers of the abdominal wall. My first care on entering the abdomen is to satisfy myself as to the condition and attachments of the great omentum. If it is free it is simply raised upwards out of the way, the patient being in the Trendelenberg position; if it be adherent it is detached or cut across, according as the condition demands, and as will be shown in the details of the cases as we come to study them. Next the cæcum is drawn well into the abdominal wound, and the exact

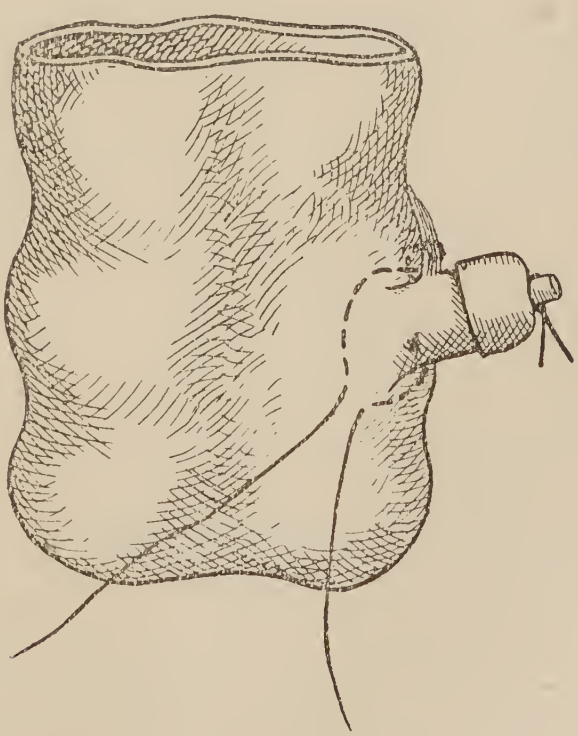

Fig. 1.—Purse-string inverting suture.

position of the appendix is ascertained; if it be free it is drawn through the wound; if there are adhesions they are broken down; and should its mesentery be so short or so distorted as to prevent its proper exposure, double ligature and section of this fold of peritoneum is carried out. This procedure is especially necessary in cases of corkscrew appendix. Once the intestine is free and the mesentery cut, a purse-string suture is applied round the root of the appendix (Fig. 1). This suture engages the serous and muscular coat of the cæcum, and it should be inserted as shown in Fig. 1—that is, it should commence at a point opposite to the mesentery; when it reaches the latter it should embrace the mesenteric edge in a loop, and then continue on the opposite side of the appendix to its starting point. This suture is left loose until the final step of the operation. I now cut through the sero-muscular wall of the appendix half an inch from its base, and turn downwards like a cuff the tissues set free by this incision, as at Fig. 2.

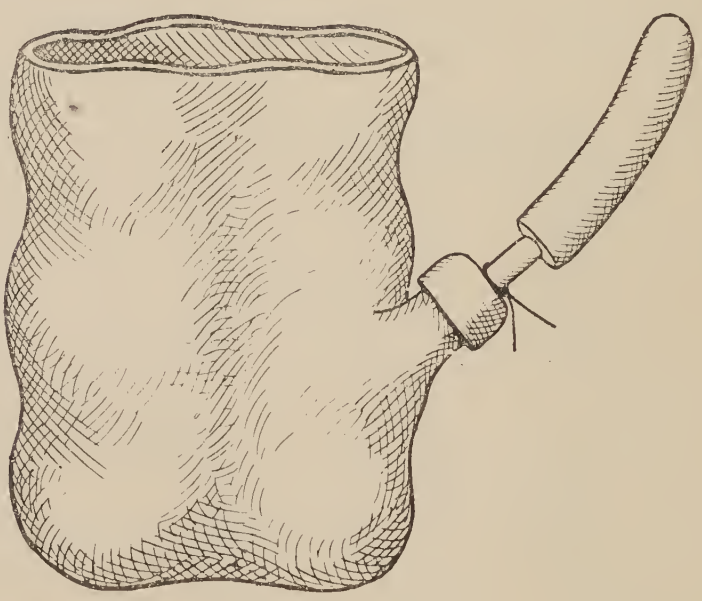

Fig. 2.

A ligature now is placed on the remaining central portion of the appendix, and the parts above it removed. With a small scoop I now curette a brownish centre of the stump above ligature, so as to remove any infective material

that may be present. This spot is then touched with corrosive sublimate solution, 1 in 500; next the cuff above referred to is unfolded; inversion is brought about at its mouth by a single Lembert's suture. The nipple-like projection thus produced is now pushed into the cavity of the cæcum, while the purse-string suture is closed, thus permanently inverting the root of the appendix and thoroughly sealing the opening into the bowel. Where there is glandular enlargement extending along the appendicular mesentery, I make it a rule to separate the layers of

Fig. 3.—Omentum and appendix.

this membrane and remove the glands, afterwards closing the rent in the peritoneum by fine silk suture. Thus I prevent subseqnent inflammatory mischief in the area referred to. When I find the great omentum nodular, adherent, inflamed, or bathed in pus, I make it a point to place a chain suture near its attachment to the colon, and, cutting below the line, I remove the greater part of that membrane, as shown in Fig. 3. This I believe to be specially necessary in cases of perforative appendicitis, and the figure to which I have just alluded represents the parts removed in a case of suppurative peritonitis arising from perforation. In these cases, where the adhesions of the omentum are old and resistent, I prefer to first detach the omentum from the colon and bring it out in the wound, still adhering to the appendix, breaking down in this procedure all secondary adhesions to uterus, bladder, or intestines. By doing this I remove the cause of many untoward troubles which attend less thorough operations. When there has been extensive infection, as in the case just referred to, it becomes necessary to drain, not alone the pelvis, but, as a rule, the right loin. When this is so, I prefer to make, while the first wound is still open, two secondary ones—one midway between the umbilicus and the pubes, through which I place a glass tube in the pouch of Douglas; the second opening is made according to the position of suppuration. If it be primarily extra-peritoneal the incision is made immediately above the crest of the ilium, and passes behind the cæcum; if the infection is intra-peritoneal, the incision is made higher up in the loin, and opens into the reno-cæcal pouch. In both these situations I use a flanged rubber drain of large calibre, and, as in the case of a glass tube, I insert a long strip of gauze through the tube for capillary drainage. Where suppuration has been extensive I invariably flush the pelvis and loin first with sterilised water, then with normal saline solution, both at a temperature of 104°. In all other cases I am satisfied that mopping up with gauze sponges without rubbing is quite effectual. Before presenting the cases on which I base this communication, I wish to make it quite clear that I am not in accord

with those who place time limits for the carrying out of appendicectomy. This series will show that at every stage of the disease operation is justifiable and successful.

PERFORATIVE APPENDICITIS.

Case I.—Miss B., aged thirteen years, came under my care on May 21st, 1898. I saw her late on that evening, and as she was greatly fatigued by the journey I delayed until next morning any surgical interference. Miss B. was sent to me by Dr. M'Caul, of Derry, who had accurately diagnosticated the case.

Now, as the persistent pain, early relapse, and the character of the temperature chart pointed to suppurative trouble, I opened the abdomen by an oblique incision half way between the umbilicus and right anterior superior spine, exposing the ileo-cæcal area thoroughly. I found the omentum adherent to the abdominal wall, and through the lower angle of the wound pus welled up. Drawing on the omentum until I reached the edge of the transverse colon, where inflammatory thickening ended, I placed a chain suture all along its root. Clamping the parts below, I cut through the omentum, and turned it with the attached forceps outwards through the wound. The posterior surface thus exposed was fixed by recent adhesions to the cæcum, which came out of the abdomen as a great solid mass. The small intestines were now protected by gauze sponges, the wound being meantime constantly irrigated with boiled water. Breaking down numerous adhesions at the back of the cæcum enabled me to bring the appendix into view. While sweeping my hand round the iliac fossa I came upon a foreign body of very firm consistency, greyish-yellow in colour, and so like a date-stone that for the time there was no doubt but that such a body had found its way to this locality by perforation of the appendix. Fig. 4 represents this body in shape and actual size. Professor McWeeney's report of his examination proved that

Fig. 4.

the body was a fæcal concretion. Fig. 5 represents the appendix, which was adherent along the inner and posterior part of the cæcum, and dipped at the point C into the pelvis. On separating the adhesions I came upon the ragged opening through which the concretion had escaped. I now separated the appendix and its mesentery from the cæcum and removed them in the ordinary way. As there had been such general peritonitis, and so much pericæcal suppuration, I made an opening close to the anterior superior spine of the ilium and laid in a large drainage tube. The entire abdominal wound was closed with silkworm-gut sutures.

Fig. 5.—Enlargement of appendix.

For a considerable time there was much discharge through the wound at the iliac spine, but by continual douching of the post-cæcal cavity with acetate of aluminin solution, com-

plete healing occurred, and on the 25th of November, 1898, she left hospital looking well and feeling thoroughly restored to health.

CORK-SCREW APPENDIX.

Case II.—Miss E. J. came under my care, suffering extremely acute abdominal pain, chiefly referred to the right side, coming on suddenly, and attended by vomiting. This pain was very persistent just before and after the early days of menstruation. In none of the attacks was there rise of temperature. Believing that there were adhesions of the appendix in the pelvis, assisted by Dr. Glenn I performed laparotomy, and discovered the appendix as shown in Fig. 6. It was coiled up

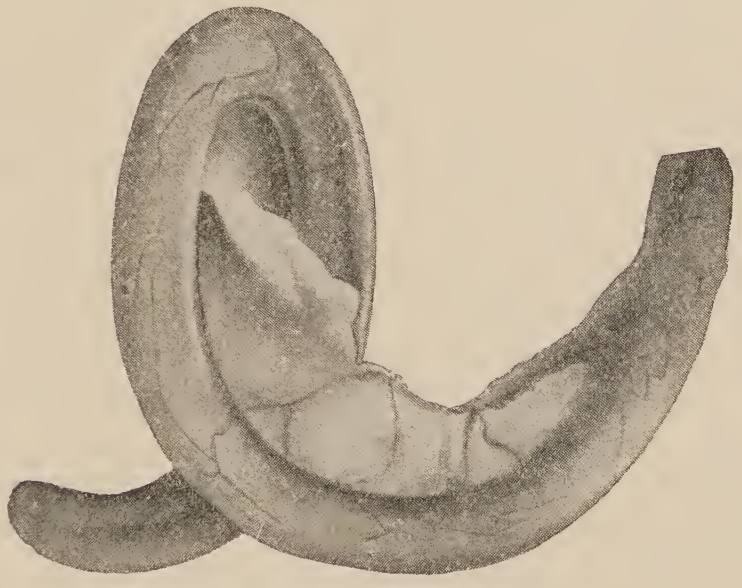

Fig. 6.—Cork-screw appendix.

in Douglas' pouch adhering to the posterior aspect of the ovary, while at the constricted part there was a band of adhesion to the terminal coil of the ilium. These relations accounted for the symptoms above referred to, and the removal of the appendix was followed by marked and permanent relief.

ART. XIII.—*Remarks on Senile Dementia.*[a] By CONOLLY NORMAN, F.R.C.P.I.; Medical Superintendent, Richmond District Asylum.

WE hear sometimes of senile insanity, and of senile mania, or senile melancholia—vague terms for mental affections occurring in persons who happen to be of advanced years. No doubt the age at which any ailment occurs has some effect in modifying its symptoms, but there is nothing sufficiently distinctive in the forms of acute mental disease affecting the old to justify us in applying to them any special epithet; neither does their prognosis lead us to the conclusion that there is anything in them that is specific.

It is otherwise with that form of mental disease which is truly incidental to old age, and to which alone the term senile should be applied. Senile dementia owes its popular names of dotage, or second childhood, to certain well-marked features, together with which must be taken its incurability.

But in spite of the ease with which its broad features may be often recognised, and of its hopeless prognosis, this affection presents certain points of interest often overlooked. To the philosophical pathologist it offers the study of a decay of function which is perhaps nearly akin to a physiological process. The morbid anatomist of the nervous tissues finds it associated with certain well-marked gross changes, which will have to be accounted for when the life history of the nervous system comes to be written, and hopes that it may one day help to shed light upon the dark places of nervous pathology and physiology.

It may therefore not be without interest to discuss briefly a few clinical points in connection with this affection.

Incidence: Sex.—The dementia of old age is more common among old women than among old men. The disproportion of the number of living members of each sex, as is well known, varies at different ages. At birth and in early life it is in favour of males; in old age it is in favour of females. But beside the apparent excess of dotards among

[a] Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, November 17, 1899.

women, dementia senilis is disproportionately frequent in their sex. One reason at least suggests itself for this disproportion. The interests of women, if not generally narrower, are certainly in most cases more domestic than those of men. Women lose interest in life sooner. They rarely have any occupation which they can carry on into advanced age. As they grow old their husbands and children die, and they become on the whole more isolated than men. The mental faculties, therefore, rust sooner.

Incidence: Social Condition.—We are confirmed in the opinion just expressed by the curious circumstance that the intellectual classes suffer less than those who do not use their brains. The manual labourer, when no longer fit to work physically, usually ceases to work mentally. On the other hand, we are all familiar with old men (and occasionally old women) who, even under conditions of extreme physical decrepitude, continue to exercise their intellect in the severe work of a profession or calling which makes perpetual demands upon the mental energy. It has often been observed that politicians, since they have ceased to drink as they did in the days of Fox and Pitt, are not only a generally long-lived body of people, but retain the capacity for severe and continuous mental work to a very advanced age. This is to all appearance due to the constantly fresh nature of their business. They have no time to yield to that intellectual idleness which is apt to come to other men when old age puts a period to their ambitions and their struggles.

Incidence: Drink and Hardship.—The former especially tends to increase the liability to this disease. The influence of alcoholism in producing premature senility in all the organs is well known. It is not least marked in the brain. Cases in which senile dementia appears unusually early are often found to be cases of habitual drinking, and many cases which one at first regards as mere alcoholic amnesia, drift rapidly into a condition not distinguishable from senile dementia.

Incidence: Age.—To mention age in connection with a condition incidental to a certain period of life may seem superfluous. I merely do so to have an opportunity of

pointing out that old age is often a relative term, and that one man is as old at 50 as another is at 70. It is not rare to find signs of senile mental decay in men whom, if one only judged by the number of their birth-days, one would call middle-aged.

Mode of Oncome.—The onset of senile dementia is commonly gradual. The slight progressive loss of mental agility, the increasing failure of memory common in old age, may for long be noticeable only by intimate friends and those who can compare the patient with his former self. These conditions generally deepen slowly, and it is often almost impossible to say when the limits of ordinary physiological senility are passed and the domain of distinct disease is entered. On the other hand, the oncome is often apparently rapid, or the disease which has been insidiously creeping on suddenly advances with great rapidity. There is considerable interest in these cases of sudden onset, which have hardly received, I think, the attention they deserve. The diagnosis of the true nature of the disease may be obscured by the unexpected nature of its apparent beginning. As with other parts, so, no doubt, with the brain. A great deal of work may be done by an invalid organ until some accidental or intercurrent affection reveals a weakness which has till now been latent, but from which recovery does not occur. Thus I have met cases in which some physical illness, severe or trifling, some moral cause of no unusual sort, has been the apparent starting point of a mental disturbance taking the form and running the course of senile dementia. Such are the following:—

Case I.—A. B., an old man of great ability who followed an arduous calling with marked success, and showed no further sign of mental decay than a degree of failure of memory which seemed physiological, and which did not interfere with his work. He tripped accidentally and fell down a flight of steps, suffered from no indication of head injury or visible trauma, but was generally shaken and was much vexed at the occurrence which betrayed his failing strength. More from vexation than anything else he took to bed, and in a few days wandered in his talk and exhibited in an exquisite form the characteristic

amnesia of senile dementia. He had forgotten his accident and, indeed, most of the events of the preceding half century. The condition of dementia persisted till his death.

Case II.—B. C., an old lady who had been in frail health for many years, but was not noticeably enfeebled mentally, got an attack of influenza during which she became delirious. When the influenza passed off her mind did not clear, and she presented a typical condition of senile dementia.

Case III.—C. D., an old lady, aged eighty-four, had been strong physically and mentally, exhibiting a slight failure of memory, chiefly in the form of telling the same story or asking the same question over again, but quite capable of attending to somewhat complicated business. She got an attack of typhlitis, suffered from delirium, and passed directly from the symptomatic delirium into a state of mental enfeeblement characteristically senile. She made an excellent recovery from the intestinal trouble, but the mental condition did not clear up.

Case IV.—D. E., a man who, though always eccentric, had been of great mental and physical vigour. He was a person of very strong family affections. When he was ninety years of age the unkindness of a favourite daughter caused an emotional storm, immediately after which he passed into a state of mental feebleness with entire amnesia for recent events. In this condition he remained till he died four years later.

Case V.—E. F., female, a person who had retained to the age of sixty-four good powers of attending to business and a clear memory. She was worried by the misconduct of a son, was sleepless and fretful for about a fortnight, and then within a few days lost memory for recent events and became rapidly demented.

Of late years we not infrequently see cases in which influenza is assigned by relatives as the cause of an illness which on examination turns out to be senile dementia. Of course, in such cases it is not always clear that there may not have been already a considerable amount of unnoticed mental enfeeblement. Similarly with moral causes. They are, perhaps, more often assigned than they fairly should be, yet I have been able to convince myself in many

cases that domestic or business troubles accelerated the oncome of a disease which might otherwise have been delayed.[a]

Certain Symptoms : Restlessness.—Marked general excitability often ushers in the disease, and the senile dement often remains fussily active for a long time. The power of fixing the attention is gone, as is the memory, and the patient generally undoes anything as soon as he has done it; while his irritability of temper and suspicion prevent the carrying out of many of the notions of the moment; but motor restlessness may be a marked symptom, and sometimes gives trouble to those who have the care of these patients. Bucknil, long ago, rightly remarked that senile dementia generally attacks those who have been physically strong, no doubt because the physically feeble die of some other ailment before time has worked its special changes in the brain. So the senile dement is often much more vigorous muscularly than most men of his age.

[a] In this way, without doubt, some of the cases of insanity coming on after cataract operations are to be accounted for. The occasional occurrence of this association has been noted at least since the time of Dupuytren (Clinique Chirurgicale, 1828. The operation then referred to was couching). Sichel, recording (in 1863) eight cases occurring in patients of advanced years, attributes the affection to the influence of the dark room—alcoholism in some, not all. Magne (1863) blames the low diet usual in such cases. Laune (1863) mentions two such cases and considers them equivalent to the delirium nervosum of Dupuytren. Zehenter (1863) noted two cases, and Schmid-Rimpler, writing at the same time, supported the view that the dark room was an important element. Frankl-Hochwart (Jahrb. f. Pscych., IX., 152. 1890) summarises 31 cases of psychoses after eye operations—mostly cataract operations. His conclusions are somewhat indefinite, but while he mentions that eye operations are dangerous on account of the close connection of that organ with the brain, and seems to think that the development of cataract and glaucoma in some specific way predispose to insanity, he refers a certain number of the cases to old age and concludes that the most important element is the dark chamber. It is evident, however, that the last is a very insufficient "cause" of insanity; it can only be at most a contributing agency. The most recent contribution to the subject is that of Löwy (Zeitschrift f. Psych., 52, 167. 1896), who concludes that insanity after cataract extraction must be distinguished from senile dementia, mental disintegration being much less profound in the former. Yet he suggests a moral cause, such as we know often enough appears to be the starting point of the latter affection. Old uneducated people come to the ophthalmic clinic expecting immediate restoration of vision, instead they experience a protracted confinement in the dark chamber.

Hence when he is restless he requires more careful management than would at first appear necessary.

Many senile dements who are apathetic during the day, are extremely restless at night. Insomnia is apt to be a troublesome symptom in all cases of insanity occurring in the old, but there is a special tendency to nocturnal excitement in senile dementia.

Certain Symptoms: Hypochondriacal Delusion is not infrequent, and when it exists has often a grotesque and extravagant form, recalling the frequent hypochondria of the general paralytic. A similar variability—hypochondria mixed with delusion of the melancholic type, interrupted by episodic excitement of the maniacal form—is to be met with in both affections. As in general paralysis, so in the disease under review; these delusions often reach the height of negation (no bowels, no body, no head, and so on).

Certain Symptoms: Suspicion.—In very many cases of senile dementia marked notions of suspicion are prominent. They form a clinical picture intermediate between the pantophobia of the melancholic, and the persecutory ideas of the paranoic. Organised delusion of persecution is rare or probably unknown. General feelings of injury and impediment exist. Vague notions that things are going wrong, and that everyone is against him, torment the patient. Perhaps the pantophobic form is due, as in melancholia, to a sense of change. A constant and true consciousness of alteration, which the patient interprets as an external change, produces a dread of everything. The tendency to suspicion may be supposed to be, in this condition, equivalent to a loss of recent acquirements. The later social and altruistic feelings are lost, while the earlier mental faculties of self-preservation remain, and being uncorrected give rise to these notions of danger of injury. Unfortunately this explanation does not suit particularly well with the origin of ideas of this class in the affection in which they are most common—ordinary paranoia—nor does it fit at all with the facts of that other great affection or group of affections, in which there is a successive loss of the latest acquirements, namely, general paralysis—for in general paralysis delusions

of suspicion, though by no means as rare as has been supposed, are not very common, and are not at all characteristic. The explanation may nevertheless contain some element of truth, for absolute symmetry is not to be found in mental decay, and there certainly is a connection between the mental desolation of the senile dement, destitute of recent experiences, and living in a world that is, as it were, foreign to him, and his general tendency to suspicion.

A very special form in which suspicion is apt to appear is the dread of being robbed. This is no doubt in part connected with loss of memory. The senile dement forgets the disposition which he has made of his property, forgets where he has put his valuables or hidden his cash, and so readily takes up the notion that he has been robbed and ruined. In many cases, especially those in which there is an exacerbation at night, a dread of burglars, housebreakers, midnight murderers, and the like specially troubles the patient, and forms his pretext for restless nocturnal wanderings. Thus, one old gentleman, living in conditions of unusual security, nevertheless got up several times every night in order to be sure that his gun was under his bed and his sword fastened to his bed head. Another who kept his ready money stored in a box in his bedroom, contented himself by day with bitter complaints that his family rifled his box, but at night, becoming impressed with the idea of danger from burglars, walked about the house for hours with a drawn sword in his hand.

Certain Symptoms: Fabulising.—The tendency to fabulise[a] which has been often noted in alcoholic dementia, and which is very frequently associated with Korsakoff's disease (polyneuritic insanity), is sometimes found in senile dementia, though rarely, and perhaps not in cases which have not been complicated with alcoholism. Thus in a senile case which I had under observation some time ago in the Richmond Asylum, the patient being assaulted by a violent maniac and receiving a bad black eye, accounted

[a] Probably the most convenient designation for that condition, seemingly rather of pseudo-reminiscence than of delusion, in which the patient with apparent conviction tells a story, not in itself unreasonable, but absolutely unfounded.

for his disfigured condition next day by telling a story, with all the appearance of conviction, of how at a particular hour he was walking in a particular thoroughfare, and that a man came quickly down a bye-way, and running against patient, got angry, and struck him without further provocation. He described minutely the appearance and dress of his assailant. Later in the case the same patient became liable to epileptiform seizures. For many hours after recovering consciousness he suffered from severe headache and general malaise. This condition he used to account for by confessing, with tears of penitence, that his master had allowed him out the day before, and that he had taken too much drink. (He had been a butler by occupation.)

In the same way I have noticed rarely, and only, I believe, in cases where drink had been an element in hastening decay, a suggestibility similar to that so common in the drunkard. Of course the disintegrated mind of the dement is not capable of long retaining suggestion.

Certain Symptoms : Amnesia.—The most usual characteristic feature of the affection is the peculiar form of amnesia which exists therein. Briefly, it may be said that memory for recent events is impaired to obliteration ; memory for distant events being relatively intact, or even over-active.

There are special points to be noted about this impairment of memory. Like the amnesia of the alcoholist it is often not very apparent to a superficial observer. One is sometimes struck by the conflict of evidence as to loss of memory in the cases of disputed wills of old men. In such a case the patient will often smile and look pleasant, and hold for a while a casual conversation with a friend without any self-betrayal, without rendering it apparent that he does not know who the person is to whom he is talking, and without letting the other see that he does not know where he is located either in time or space. Again, the same result may follow from the variability which, though less marked in this than in most forms of mental disturbance, still occurs often enough. Considered theoretically, senile dementia, being a state of irreparable destruction, ought to be invariable in the phenomena it presents. Nevertheless, and although there is no recovery, and although the

course is on the whole downward, there may be remarkable variations of memory and of lucidity within short periods. Thus, in one case a patient remonstrated with his physician for visiting him, believing (wrongly) that the visit was for the purpose of certification, and saying that such a thing would injuriously affect the prospects of his family. Within a few hours earlier, and within a few hours later, he did not recognise his children, wondered who these strange young people were, and did not even seem to know that he was married. Nor was this an example of a lucid interval, for at the same interview with his medical friend he did not know the approximate date, and he did not know clearly where he was. One old man was in the habit of discussing his business affairs with his wife, with perfect apparent knowledge of who she was, though with many suspicions of theft on her part. Yet from time to time he forgot her, tried to exclude her from his bedroom, and consulted a friend as to how he could get rid of her, being under the belief that she was a woman of improper character who had come into his house for the purpose of levying blackmail upon him.

The forgetfulness of recent things is perhaps purely attributable to general mental enfeeblement, to loss of power of receiving and of retaining impressions and experiences, but I venture to think that the comparative activity of images of events long past requires some further explanation. If there only existed an incapacity to receive and retain impressions, the result ought to be mere dulness and apathy; but this is not the special characteristic of most cases of senile dementia. On the contrary, the senile dement is apt to talk and think feebly indeed, but constantly and unrestingly of the events of the long past, often of the events of early childhood. Some explanation is needed of why these are called up at the same time that later experiences are forgotten. The one process does not logically seem to be necessarily connected with the other. What causes the sudden projection of ideas long dormant—ideas which would with difficulty have been recalled had the patient retained normal health—nay, which probably could not have been voluntarily recalled, having been for years apparently

irrevocably forgotten? In the normal state it occasionally occurs that recollections of childhood long quiescent return with startling vividness in dreams, especially during illness. I believe the same thing has sometimes been noticed in the delirium of fevers. A medical friend, in whom I have confidence, had a curious experience when under the influence of ether. The anæsthetic was administered very cautiously and too slowly, and while passing under its effects the patient had a series of vivid visions like hypnogogic hallucinations. The latest of the series (or, at least, the latest as seemed to his subsequent recollection) was an image of one of his brothers as a young child. The appearance of the vision was accompanied by a very distinct auditory hallucination. The image of his brother gave utterance to two perfectly unmeaning words, which the subject seemed to hear very clearly and in a loud ringing tone. Subsequently, when he recalled this occurrence, he recognised one of the words, but could not for several days recognise the other. He finally recognised this word also. Both the words were items of a sort of code of jargon which the children had invented to communicate with each other when they were in the presence of persons whom they did not wish to enlighten. My friend is convinced that he had not thought of those words or this dialect for at least thirty years. One of the words he could only trace after long efforts to recall the various subjects dealt with in the code and the corresponding jargon.

It would thus appear when the present consciousness is dulled there may revive in sleep and in various morbid and toxic conditions images which in normal states would be incapable of resuscitation. Probably some similar order of events occurs in senile dementia.

Certain Symptoms : Aphasic and Paraphasic states are commoner in senile dementia than has been up to the present recognised.[a] The forgetfulness of proper names,

[a] I have found few references to this subject in psychiatric literature. The fullest is that of Schüle (Klinische Psychiatrie, 3rd Edition, 392). Ziehen (Psychiatrie, 1st Edit., 442), comparing senile dementia with general paralysis, says that hesitation of speech is almost never present in the former, but that aphasic and paraphasic disturbances are more frequent. Salgò (Compendium der Psychiatrie, 4th Edit., 316) speaks of aphasic

the misuse of substantives, and finally the almost complete loss of these parts of speech which occur in many cases, closely resemble ordinary aphasia.

Mrs. C. D. (Case III.), above referred to, talked volubly, often using wrong words; sometimes she forgot a noun and exhibited much irritation. If she did not soon find a word (it was rarely that of which she seemed in search) she broke out into perfectly unmeaning sounds, a sentence or two of mere gabble, not words, but sounds with an intonation like words. When a wrong word occurred in an ordinary sentence it was sometimes evident for what it was intended, as there was often very slight similarity in sound. Thus she spoke of Captain A.:—"He joined his risk for "regiment" in England." She called her pulse her "pupils," and it was only on repeated suggestion from her nurse that she recognised the word "pulse." She grumbled, "Everything is wrong; they don't know what to do; look at that (pointing at the fire which had gone out)—look at that undisciplined grate."

Case VI.—Another case (X. Y.) was observed to talk gibberish at times, from a very early stage of her illness. When I saw her she often forgot words and became violently irritated thereat. She got into curious tangles, beginning a sentence, dwelling on a word and repeating it, and then losing the thread altogether. She said:—"I am very—am very—I am very—very—very"—and then "confused" being suggested to her, she went on, "I am very diffused." Questioned about her sons, she said:—"One is abroad in India—great names and money—lords and princes; one is in the South, in the Count (County) Cork—the *claim* of the place is B.; another has a great deal to do; is a big—big—big"—("business" suggested) "Yes, a big business in Italy."

troubles connected with cortical and meningeal hæmorrhages in senile dementia. Kräpelin, in the last (1899) edition of his text-book, speaks of the loss of substantives and peculiar failure of speech showing traces of aphasia. But a much earlier writer seems to have recognised this condition very clearly. Durand-Fardel (Traité pratique des Maladies des Vieillards, p. 33, 2me Edit., 1873) says—"Sometimes there is added to the disturbance of intelligence an alteration of speech, a true aphasia. We have seen two cases in which words seemed forgotten. The patients endeavoured in vain to reply; if some syllables escaped from their mouth they repeated them without varying, or they even repeated the last word or the last syllable of words which had been addressed to them." This description occurs under the rubric of the delirious type of cerebral congestion in the old, but the entire of Durand-Fardel's picture leaves no doubt that he is describing the excitement of senile dementia.

In the case of E. F. (Case V.), above referred to, when I saw the patient she presented an intelligent expression; she rose as I came into the room, greeted me smilingly and courteously, and called me doctor, so far seeming to recognise her surroundings. Nevertheless, though in Dublin, she thought she was in the provincial town where she had lived many years, and she did not recognise her daughter who was with her. She replied to questions often with an intelligent air, generally quite from the purpose, though sometimes in a connected sentence. From time to time used wrong words without seeming to notice. Again stuck fast, apparently through forgetting a word, mostly a noun. Again she repeated a word over and over as one sometimes finds an aphasic do. Thus, asked what was the matter, she began to describe how she went out to drive the same morning, and then said—"And the matter, the matter, the matter, the matter, the matter." Sometimes she seemed conscious of her state, and said, "I don't understand you." Asked her age, she bridled up and said, "I do not like to say." Being promised only easy questions, and then asked her name, she replied correctly, and added, "That *is* an easy question." She could not tell the current year (1899). When I suggested "Eighteen hundred and ——," she said, "Eighteen hundred and six." I asked her in what year her husband died, and she replied, "Sixteen hundred and six years." Asked how many years it was since her husband's death, she counted aloud, "One, two, three, four, five, six—six years." Answered in the same way the number of her children. When she did not deal in this way with figures she answered incorrectly. Some of her words appeared to be mere paraphasic gabble. Thus asked what her husband died of, she replied, "Kyrax of extinguish," which she repeated several times. Neither did she seem to recognise nor to understand the word apoplexy when suggested to her. Asked how she had come to where I saw her, she replied, "I drove in a daminett." Asked from where, replied, "From Ballarett." In this case it was possible to test for alexia, and a condition of pretty well-marked paralexia was found. I gave her the *Daily Nation* newspaper to read, and she held it before her face and looked intelligent, her lips moving, and so on. Being pointed out the title, and asked to read it, she said readily, "The Daily," and stopped. She tried to spell the word Nation—"M-a-y-l-l-l-m." I spelled the word correctly for her, with her apparent assent, and pronounced the whole title for her several times, and asked her to pronounce it. She said, "The Dammanation." I then tried her with "Price one penny," also

printed large. She mumbled, and seemed unable to manage it at all, so I spelled p-r-i-c-e, price, &c., and then she read:—"I—I—I am a nation, I am a price."

She did better with a book, but exhibited the same general peculiarities, similar to paralytic alexia, dropping words, substituting others, harping on one word over and over again. When started, however, she babbled on contentedly, reading much faster than she spoke, and with good emphasis.

The following is the passage :—

"'You were always a kind-hearted boy,' said Frank, gratefully. 'Miss Clauson, do you think I could learn to ride?'

"'You are too lazy, I fear.'

"'Yes; I suspect I am. I won't trouble you, Purton. Goodbye.'

"The horses trotted on, and Frank sauntered back to Hazlewood House, smiling placidly.

"In the afternoon, to Miss Clauson's supreme astonishment, the new purchase arrived. She and Frank were in the garden at the time. The bay was placed in Mr. Giles' charge, and that personage, after inspecting it, rejoiced for two reasons—the first, that Mr. Barker had not 'bested' Frank; the second, that even if Frank had 'bested' Mr. Barker, the horse must have cost a pot of money, and at whatever figure his (William's) introduction might be assessed, the backsheesh must be worth having.

"'I thought you didn't care for riding," said Beatrice.

"'I don't—much.'

"'Then why buy such a horse?'

"'Because I should like to ride with you.'

"He gave her one of his quick glances. Beatrice turned away, ashamed to feel that she was blushing. She was very cold and reserved during the evening, yet the audacious young man choose to take it for granted that she would accept him for her cavalier, *vice* Purton superseded."

And this is her rendering thereof :—

"You were always a kind-hearted Frank. You are too lazy I fear. Yes I won't trouble Burton Purcell. The horses trotted Frank and bank solid horses wood good pot of money purcell burton which you see must be worth. Frank and shutters up were in the garden solid wood (here voice got low and mumbling, and could not be followed).

"He gave her one quick. Burton turned away covered with blushes. She was blushing. It was very cold that evening and yet (mumbling as above). Burson proceeded."

Certain Symptoms: Disorientation.—The tendency to disorientation, which is probably always present in senile dementia, is interesting from a semeiological point of view, and also in connection with aphasia and alexia. Nothing is more remarkable as a symptom than the frequency with which a patient will deny that he is in his own house, that the furniture about him is his own, &c. It is not strange that this should happen if the patient has lately changed his residence, for his want of recent memory may seem to account for it, but it occurs when the sufferer has dwelt all his life in the same place. A very common notion is that the house is a lodging-house, or a hotel, or a friend's, and the patient will say, "I cannot stay here any longer, I cannot afford it;" or, "I am trespassing too long on these people;" or, "I must go home and attend to my business." To desire to go home, to get away out of this strange place, is not infrequently assigned as a reason for the patient's restlessness, but an entire absence of orientation may occur in a case in which restlessness is not marked. Some such patients, too, seem to think they are at home when they are really away from home, or even in an asylum. Some patients lose their way in their own garden, or even in their own house. Few can be trusted alone in a town. They forget their way, they forget the name of the street, they even forget the appearance of their own house, and pass it by without recognising it. These conditions appear not to be analogous to disorientation arising in connection with maniacal, confusional or paranoic states, but rather to depend upon a form of asymbolia, and to really consist in an incapacity to understand the nature of one's surroundings. I have noticed disorientation most frequently in individuals who showed paraphasic symptoms, and who made errors as to personalty. Thus, in a certain patient, one of the earliest observed signs was a tendency to read nonsense (*i.e.*, misplace and misuse words) when reading aloud to his family, as had been his custom. Later on he was paraphasic in conversation, and his disorientation was remarkable. He was found on one occasion sitting on the door-step of the house next his own, crying because

he could not find his way home. He could not remember the number of his house, nor even the name of the street, in which he had lived for years. Partly conscious of this condition, he caused his address to be written in full in his note-book, but this did not help much, for he sometimes did not remember his note-book, and when he did he often failed to recognise the entry made therein. At times he could not find his cigar-case. He emptied his pockets, and rummaged over their contents, taking his cigar-case in his hands several times, and continuing to search for it. Sometimes, though anxious to smoke, he could not light his cigar through sheer inability to understand the use of a match. At other times he would call loudly for a cigar while he was actually holding one in his hand. He had a habit of filling his pockets with empty used envelopes, and posting them in street-pillars or shoving them into private letter-boxes as he passed by. On some occasions he gathered up visiting-cards, and brought them to his wife, with a request to stamp and post them. The failure to identify common articles, or their imperfect identification, seems here to very closely resemble the failure to identify names in aphasia, or the misuse of words in paraphasia, and to be rather classed as asymbolia than as mere loss of memory.

In a case already referred to (X. Y.) the patient frequently urged her friends to bring her home out of these lodgings, and when they tried to remind her that she was in her home, she used to reply—"That cannot be; these things are not mine; the pictures on the walls are strangers, the furniture is not mine," and so forth. Mistakes as to personalty are not always to be accounted for solely by loss of memory. Thus a patient will confound one of her children with another, not merely confusing the names, but mistaking the individuals, though able at the same time to describe the different persons with general accuracy. I have a case under notice in which an old man not only forgets his daughters but from time to time points to them and asks—"Who are those young men?" His vision is good. He is apt also to say—"We have been long enough

in this hotel; we must go home," though he has lived for some years in his present residence.

Certain Symptoms: Sexual Excitement.—A common symptom in early cases of senile dementia is a tendency to sexual excitement, often showing itself in rather disgusting ways—by exposure, by indecent liberties with children, and so forth; or merely indicated by a silly tendency to talk unreservedly of sexual matters. Whatever form the excitement takes, there is a general character of fatuity and want of vigour.

Various attempts have been made to account for this condition. Some authorities talk vaguely of an irritability connected with the involution of the sexual functions. I am not sure whether this means anything. If it does, the assumption that the mere progressive decay of certain organs is accompanied by excitability of function seems by no means self-evident. There may be some analogy between the recrudescence of sexual feelings and the revival of the long-forgotten thoughts and ideas of childhood; but this is not clear, and certainly the old man does not return to the same notions of sexual matters which occur in the child before puberty. It is probable that the sexual proclivities shown in the senile state are simply due to those residual feelings originating in the sexual nerves, which most likely never become absolutely extinct. These are uncorrected by the weakened judgment, and, the mass of memories and experiences which serves as the guide to action being forgotten, indulgence of the excitation of the moment follows.

ART. XIV.—*The Prevention and Treatment of Post-partum Hæmorrhage.*[a] By JOHN W. BYERS, M.A., M.D., M.A.O. (*Hon. Causâ*); Professor of Midwifery, Queen's College, Belfast; Examiner in Obstetric Medicine in the Royal University of Ireland; Vice-President of the Obstetrical Society of London; Physician for Diseases of Women to the Royal Victoria Hospital, Belfast; Consulting Physician to the Belfast Hospital for Sick Children; President of the North of Ireland Branch of the British Medical Association.

POST-PARTUM hæmorrhage may be defined as hæmorrhage occurring after the birth of the child, and either before, but usually after, the delivery of the placenta. If it occurs within a period of twenty-four hours it is said to be primary; but, for purposes of discussion, we may say clinically that *post-partum* hæmorrhage occurs soon after delivery, or if later, before the usual period that the medical attendant leaves his patient believing her to be safe.

AMOUNT OF BLOOD LOST.

It has been stated that, as a result of careful estimates made in lying-in hospitals, the average amount of blood lost in childbirth is one pound, but, while this may be accurate scientifically, yet for practical purposes it would convey little information to tell a doctor engaged in private practice that when the blood lost at her confinement by one of his patients exceeded, say, from sixteen to twenty ounces, he was to regard it as a case of *post-partum* hæmorrhage. In practice we soon come to know that every patient is a rule to herself as to the amount of blood she loses during the birth of her child. Some lose more, others less; and it is probable, as Dr. Giles has pointed out, that there is a "physical temperament," characterised by copious pigmentation and the brunette complexion, in which the tendency to hæmorrhage is greater, and among such the normal amount of loss at the time of labour would be above the average. A woman may be said to suffer from *post-partum* hæmorrhage when she

[a] Introduction to a Discussion in the Section of Obstetrics and Gynæcology, British Medical Association, Ipswich, August 3rd, 1900.

has a sudden excessive loss of blood after childbirth, or when a slighter amount continues to flow, and when at the same time there is either uterine inertia or traumatic lacerations of the parturient canal, the effect of the hæmorrhage being shown by her constitutional condition, as evidenced by her appearance (variations in pallor), and by her pulse (rapid, low tension, and the intervals between the beats not well marked).

PATHOLOGY.

In order that we may treat *post-partum* hæmorrhage, it is necessary to know what are the usual pathological conditions present in cases of bleeding setting in immediately after delivery, and the causes may be grouped under two heads:—

(*a.*)—Hæmorrhage due to uterine atony, the bleeding in these cases arising from the uncompressed vessels in the placental area.

(*b.*)—Wounds of any part of the parturient canal, without any necessary uterine inertia.

By far the more numerous cases fall into group (*a*); indeed, some would restrict the term *post-partum* hæmorrhage to cases of atony of the uterus, but, for purposes of diagnosis and treatment, I shall also have to speak of cases arising from traumatic lacerations. However, I ask your attention mainly to the first division:—

(*A.*) CASES OF HÆMORRHAGE AFTER DELIVERY WITH A RELAXED, UNCONTRACTED UTERUS.

In the majority of labours *post-partum* hæmorrhage sets in without our having had any warning to put us on our guard against its occurrence, but in some cases our suspicions as to the possibility of our having to deal with such a serious complication may have been aroused beforehand. The following are the conditions which may lead the accoucheur to suspect the onset of *post-partum* hæmorrhage:—

I. *History*—

1. Hæmorrhage at a previous confinement.
2. Rapidly succeeding pregnancies, especially met with amongst the poor; time not being given for the uterine muscle to return to its normal condition.

3. A combination of want of exercise, and the taking of too much food and stimulants, as seen among the better classes.
4. Elderly primiparæ.
5. Patients with pre-existing metritis.

II. *During Pregnancy—*

1. Over-distension of the uterus (twins, hydramnios, &c.).
2. Presence of a tumour in the uterus (myoma) preventing uterine contraction.
3. Albuminuria.
4. Extreme mental depression, seen often in cases following the death of the husband.
5. Excited vascular system, especially towards the end of pregnancy.

III. *During Delivery—*

1. The character of the pains in the second stage of labour. "The pains are of this kind—they are strong and quick; they do not gradually culminate into a strong pain and subside again, but they are sharp, quick, and cease almost suddenly, and the intervals between the pains are long in proportion to the length of the pains." [a]
2. A pulse keeping rapid towards the end of delivery, with low tension and of a jerking nature. This state of pulse is quite different from that met with in nervous women at confinement, or in those who have taken chloroform. In both of these conditions the pulse may also be quick, but there is a distinct interval between the beats, and there is evident vascular tension.

By some it is thought the administration of chloroform during a confinement predisposes to the occurrence of *post-partum* hæmorrhage. At the Nottingham meeting of the British Medical Association, July, 1892, I read a paper—"Does Chloroform promote *Post-partum* Hæmorrhage?"—in which I endeavoured to show that this anæsthetic has no effect in causing *post-partum* hæmorrhage, provided that in all cases care is taken not to effect delivery too rapidly, and also to manage the third stage of labour according to modern

[a] Whittle. 'Brit. Med. Jour.,' 27th September, 1873.

teaching. Subsequent experience has confirmed me in the view I have stated, but I need hardly say in all cases in which in obstetric practice chloroform is given to the surgical degree, a competent person should be asked to administer the anæsthetic.

PROPHYLAXIS OF POST-PARTUM HÆMORRHAGE.

There is no complication met with in obstetric practice of which it can be more truly said that its treatment is its prevention; and the best proof of this aphorism can be found in the circumstance that while students and medical men in the early years of practice dread the condition, as they get more experience they become less fearful of it, and really meet it less frequently. I propose to speak first of the prophylactic measures to be used to prevent its occurrence in every case, and subsequently to say something as to the measures to be adopted under those special conditions which I have mentioned as leading us to suspect its onset.

PROPHYLAXIS TO BE ADOPTED IN ALL CASES.

The two measures which should be adopted in every case to prevent *post-partum* hæmorrhage are—1. The proper management of the third stage of labour; and 2. The important principle—never to deliver in the absence of pains.

1. *The Management of the Third Stage of Labour.*—Of no condition in obstetric practice may it be said with greater truthfulness that "meddlesome midwifery is bad" than of the management of the third stage of labour. This is due partly to the teaching of Credé, but still more to inaccurate knowledge as to what occurs in the uterus after the birth of the child. There are two factors in the third stage of labour—(*a*) the separation, and (*b*) the expulsion of the placenta with the membranes. Nature should be allowed to separate the placenta, and then if she is not equal to the second task, the accoucheur can assist in helping her to expel the already separated placenta. The great mistake is an attempt made at once by the obstetrician to express the placenta from the upper or contractile part of the uterus—a line of practice liable to be followed by retention of membranes, *post-partum* hæmorrhage, and even septic poisoning—instead of waiting

until certain signs indicate that nature has herself separated the after-birth. For the sake of clearness, and because of its enormous importance as a preventive of hæmorrhage after delivery, let me point out the best method of managing the third stage of labour.

As soon as the head of the child is born, the left hand of the accoucheur is placed on the woman's abdomen over the fundus of the uterus, the ulnar edge of the hand looking towards the vertebral column. The child's eyes are wiped, and a finger ascertains if the cord is round its neck. During the subsequent birth of the child the left hand of the accoucheur follows down the fundus. Immediately after the child is born the woman is turned on her back, the advantage of this most important step being two-fold, as it enables the uterus to be easier and better controlled by the accoucheur's hand, while it prevents, especially in multiparæ, the entrance of germ-laden air through the relaxed vulva. As soon as pulsation has ceased the nurse ties the cord, one ligature being placed in the usual way near to the child's abdomen, the other close to the vulva of the mother, care being taken to gently draw down the cord so as to leave no loop in her vagina. The hand of the accoucheur never leaves the fundus. except in the case of a child born in white asphyxia, when the doctor must look after it and the nurse takes his place in controlling the fundus. No attempt should be made to massage or stimulate the uterus ; all that is required is simply to control the uterus with the hand and to ascertain when the placenta has separated. This can easily be diagnosticated by the following signs :—

(1.) A sudden rising-up of the uterus which may have previously been largely in the pelvis.

(2.) A swelling detected above the pubes due to a bulging forward of the lower uterine segment. It is very much in the position of a distended bladder, and is sometimes mistaken for it.

(3.) Greater mobility of the uterus.

(4.) Expulsion of a few more inches of the cord, as shown by the fact that the ligature, placed at first close to the patient's vulva, has now advanced from that position a few inches.

The separation of the placenta as indicated by these signs

takes place in about 20 to 30 minutes. When once the placenta has separated and has left the upper active and contractile portion of the uterus, then firm pressure is made by the hand of the accoucheur over the fundus during the height of a pain, and the placenta is expelled out of the lower uterine segment and vagina. The nurse then takes charge of the after-birth, gradually turning it round and round to get the membranes thoroughly away. The hand of the accoucheur still controls the uterus, and while he is doing this the nurse floats the placenta and membranes in a basin of water, so that he can see if there is any lobule of placenta left behind, or if there is a piece of chorion wanting, indicating the presence of a placenta succenturiata. Supposing the examination of the placenta and membranes shows there is nothing left behind, the nurse bathes the patient's vulva with a mercurial lotion—all blood, &c., being removed—applies a pad wrung out of corrosive, and the binder is put on, but the accoucheur never lets go control of the uterus until this is completed. In this way the uterus is left in a state of permanent retraction.

2. The other important measure as a prevention of *post-partum* hæmorrhage is not to deliver in the absence of pains. As examples of the abuse of this principle I may cite such a condition as "secondary uterine inertia," where a labour comes to a standstill. The pains cease, the woman and her friends (Smellie's "Gossips") urge the doctor to deliver her. It may be she is well on in the second stage, but her pulse is quiet, and her uterus, on abdominal examination, is relaxed, and there is no rise of temperature. The doctor yields, tired it may be after sitting up all night, and anxious to visit other patients; he easily slips on the forceps and delivers, but later on severe hæmorrhage sets in, the uterus not having contracted, and the woman is in imminent peril. Here the proper line of action should be to give a dose of opium; the woman will then fall asleep, and after a time pains will come on again, and she will probably deliver herself without any assistance.

Another example of the terrible mistake of delivering in the absence of pains is afforded by the way cases of placenta prævia are sometimes managed. It is well known that one of the best methods of treating placenta prævia is by

bi-manual version, a foot being brought down so as to dilate and plug the lower part of the uterus with the child's leg and thigh. Too often it is forgotten that time must be allowed for uterine pains to come on, and deliver the child after it has been turned. The delivery is hurried after the child has been turned, and as a result hæmorrhage occurs from an atonic uterus, while the forced delivery, by tearing the tissues of the lower part of the uterus—which, owing to the implantation of the vascular placenta, are as soft as blotting-paper—causes also a bleeding due to traumatic laceration of the parts.

PROPHYLAXIS TO BE ADOPTED IN SUSPECTED CASES OF POST-PARTUM HÆMORRHAGE.

When from the symptoms I have mentioned we suspect the occurrence of hæmorrhage after delivery, the following precautionary measures should be adopted:—(1), During pregnancy the patient should be advised to take exercise and to keep her skin (baths) and bowels (purgatives) acting; she should avoid all stimulants of any kind, and if there is albuminuria a milk diet should be enforced; (2), during confinement the fœtus should be delivered slowly, its birth being followed down by the hand on the fundus, and it is good practice—provided the head or breech presents—to puncture the membranes when the os is nearly fully dilated. By this measure the pains are increased in energy, and it also favours tonic contraction of the uterus after expulsion of its contents. Further, from the very onset of labour the patient should be kept lying, and as soon as the os is fully dilated I have found the practice recommended by the late Dr. M'Clintock of giving two teaspoonfuls of liquid extract of ergot most useful.

In cases where I suspected the occurrence of *post-partum* hæmorrhage I have prescribed, for a couple of weeks before delivery, ten grains of chloride of calcium thrice daily. This practice gave good results, but whether the medicine or the careful management of the third stage of labour deserves the credit, it is, of course, difficult to say. Dr. Atthill, of Dublin, in cases where from the experience of previous labours he anticipated *post-partum* hæmorrhage, or where, in

the progress of tedious labours, the uterus became exhausted so that he suspected hæmorrhage after delivery, gave in the former case for three weeks before the expected labour a mixture of liquor strychninæ with infusion of ergot, adding iron if the patient was anæmic, hydrochloric acid if she was plethoric. He gave this mixture for seven to ten days, then after ceasing its administration for forty-eight hours, he let the patient continue to take it.

The mixtures are as follow:—Ext. ergot liquid, ʒii.; liq. strychninæ, ʒi.; acid hydrochloric dil., ʒii.; inf. ergot, ad ʒvi.—m. A measured tablespoonful thrice daily. In anæmic women the hydrochloric acid was replaced by ʒi. of ferri et ammon. cit. In the latter case—exhausted uterus in a tedious labour—he recommends a dose of ergot with ten drops of liquor strychninæ in the first dose and five drops in the next if necessary. Endometritis in a married woman at the child-bearing age should be carefully treated.

TREATMENT OF POST-PARTUM HÆMORRHAGE.

As there is hardly any complication met with in midwifery needing greater pluck, and more resourceful and prompt action on the part of the attendant, it is good practice in all confinement cases to see, as the second stage of labour is advancing, that everything is conveniently ready—such as hot water, the douche with double-current intra-uterine tube (Bozeman's or Budin's), &c. The accoucheur, fortified in this way, acts with much greater self-reliance should hæmorrhage suddenly set in. Supposing the placenta has all come away, and that then suddenly bleeding sets in with a relaxed inert uterus, what should be our line of practice?

1. I think the first measure to be adopted is external uterine massage. By this means the uterus is stimulated to contraction, clots are expelled, and often this method is sufficient of itself to arrest the hæmorrhage.

2. Should this plan fail then I recommend the use of hot water. A double-current instrument (Budin's or Bozeman's) should be employed, and it is a great advantage at the same time to draw down the uterus by catching the anterior lip of the cervix with a volsellum forceps. Certain precautions in the use of hot water are necessary:—(1st),

temperature; in maternities a bath thermometer is of value as indicating the proper temperature—118° F.—to be used, but in private practice the best rule is to have the water at that temperature which the hand immersed in it will bear. (2nd), amount; the hot water should be used in large quantities. (3rd), the intra-uterine tube should be passed up to the fundus, so that the whole inner surface of the cavity is bathed. (4th), antiseptic; some use a little creolin (half a teaspoonful to a pint) in the hot water; I prefer salt—a teaspoonful to the pint. Never use any corrosive in the hot water, the objection to it being that, owing to the open state of the uterine vessels, absorption takes place rapidly with the risk (I have seen its occurrence) of mercurialism. Cold water should not be employed; it is not sterile, and its low temperature has a prejudicial effect on the anæmia, while the hot water is distinctly stimulating.

3. *The Introduction of the Hand into the Uterus.*—As there is no operation, I believe, so dangerous to a parturient woman as the introduction of the hand of her attendant into the uterus (owing to the admitted difficulty of rendering it aseptic) this practice should only be done when the indications are clear. If hæmorrhage sets in before the placenta comes away, and if, owing to adhesions, external abdominal massage fails to expel it, then the hand must be introduced to withdraw the placenta. Again, if a lobule of placenta, or a piece of outlying after-birth is retained—I have mentioned the signs indicating both of these conditions—the hand should be introduced to remove the retained parts which prevent, by their presence, the uterus contracting on its own vessels. After the hand has been withdrawn, the uterus should be carefully douched with a hot creolin lotion. In the absence of the clear indications I have mentioned, the use of the hand inside the uterus is, I believe, bad practice. No doubt it stimulates the uterus to contract, but hot water will do this equally well, and there is not the same risk of septic poisoning as when the hand is introduced.

4. Should the preceding measures have failed, then we may try bimanual compression, but my own experience of it is that it is very fatiguing to the accoucheur and trying to the patient, and I prefer—

5. *Gauze-plugging of the Uterus.*—A word about its technique. You may, as the text-books teach, need three lengths of four or five yards, each three to four inches broad, but I have been struck with the fact that when the uterus is drawn down with the volsellum very much less of the gauze is needed. The plan I can recommend from personal experience is to carry in your obstetric bag one of Dührssen's sealed tins of sterilised iodoform gauze. This tin takes up little room, it can be opened quickly (as a tin of Brand's essence), and it contains sufficient gauze to plug the uterine cavity. I get it through Fannin, the instrument-maker in Belfast, from Berlin. Great care should be taken to plug the uterus tightly up to the fundus. The hold given by the volsellum forceps allows sufficient counter-pressure when you are packing the cavity of the uterus. The gauze acts by stimulating the uterine muscle to contract, but also by insinuating itself into the mouths of the bleeding vessels, and so directly compressing them.

6. *Drawing downwards the Uterus.*—Should we meet a case where, notwithstanding the gauze packing, hæmorrhage continues, I think we should first (on the assumption that our previous technique has been at fault) remove the gauze, wash out the uterine cavity with a creolin douche, and re-apply, packing very firmly, the gauze. If, notwithstanding, the hæmorrhage again returns, I should strongly recommend the firm drawing down as far as possible of the uterus with volsellum forceps passed through the lips of the cervix. This method acts, I think, by kinking and compressing the uterine arteries, as is seen often in the operation of vaginal hysterectomy. In such circumstances Professor Schauta, of Vienna, thinks atheromatous vessels are present in the placental area. He advises laparatomy in hospital practice, or in private practice eversion of the uterus into the vagina by pressure on the fundus, so that the bleeding vessels may be caught, or an indiarubber ring (as recommended by Kochs) or a gauze bandage may be fastened round the everted uterus, so as to cut off the circulation. The compression should not be maintained for more than six hours to avoid gangrene, and Professor Schauta prefers that the vessels should be caught directly rather than that pressure should be applied

to the whole uterus. When the bleeding is stopped the uterus is to be re-inverted. I have no personal experience of this method; I simply mention it on the authority of the distinguished Viennese obstetrician.

7. *Injection of Iron.*—I have not used the injection of perchloride of iron solution for the past five years. It is a remedy not without danger, it causes a certain amount of superficial injury of the uterine wall, which forms a suitable nidus for the growth of germs, and if it fails, plugging cannot be done, owing the effect the iron has on the tissues. I have been told that gauze plugging has replaced the use of iron in bad cases of *post-partum* hæmorrhage in the Rotunda Maternity Hospital.

The treatment I have mentioned applies to cases of uterine inertia giving rise to hæmorrhage after the delivery of the placenta. Should bleeding set in before the after-birth is delivered, pressure should be at once used to bring it away, and if this fails the hand should be introduced to separate and withdraw the placenta. Should a portion of the placenta remain, or a piece of membrane, or should there be the suspicion of a uterine tumour, the hand must also be introduced both for diagnosis and treatment. In all such cases the uterus should afterwards be most carefully douched out with a hot creolin lotion.

(*B.*) *POST-PARTUM* HÆMORRHAGE FROM WOUNDS OF ANY PART OF THE PARTURIENT CANAL.

This division includes the class of cases described by the older obstetricians as *post-partum* hæmorrhage with a contracted uterus.

The wounds or lacerations may occur in the perineum, the crura of the clitoris, or the vessels of the bulb, the vagina (of greatest importance when the wounds are at the upper and posterior part, often involving the large vessels of the cervix), the cervix, or the uterus itself.

A word or two about the diagnosis of the source of the bleeding in these cases.

1. *The History.*—It is after forceps or unaided labours that vulvar or vaginal wounds are most apt to occur; while lacerations of the cervix are more usually met with in breech and turning cases.

2. *Examination.*—The best time to distinguish between atony of the uterus and a wound of the parturient canal as a source of bleeding is when, by massage, you have made the uterus to contract. If the hæmorrhage is from uterine inertia the blood is suddenly driven out of the uterus, but in lacerations there is a continuous oozing, the uterus remaining contracted. If the uterus is washed out by means of a double-channelled tube, the return fluid is clear if there is no uterine inertia, while if there are lacerations blood is still seen to flow at the sides of the tube from vagina or vulva. If blood comes from a wound of the vulva, ocular inspection will demonstrate its source and its florid colour; if, with a a contracted uterus, there is no wound of the external parts, then a careful examination of vagina and cervix will show where the wound is in cases of hæmorrhage.

TREATMENT OF LACERATIONS.

The perineum if torn should be stitched up. Hæmorrhage from a wound of the vascular anterior part of the vulva (often produced by one of the blades of the forceps) may be stopped by a gauze pad and pressure, or a suture may be passed by a curved needle. Wounds of the vagina must be stitched, and if the cervix is lacerated it can be drawn down and sutured, or a gauze plug may be applied.

A very rare cause of *post-partum* hæmorrhage is a wound of the uterus, or it may be due to a previously existing intra-uterine tumour which has been injured and torn during labour. Here diagnosis and treatment follow upon a careful digital exploration of the uterus. If possible the tumour should be removed, and a gauze plug applied. In the rare cases of hæmorrhage due to a tear of the uterus gauze plugging should be used.

THE AFTER-TREATMENT OF POST-PARTUM HÆMORRHAGE.

When the hæmorrhage has ceased the subsequent anæmia demands most careful treatment. The patient should be kept quiet, her head low, the lower part of the bed being raised to facilitate the weak circulation. Subcutaneous injections of ether and strychnin are most useful, but our sheet anchor is saline transfusion, experiments having shown

that in animals bled almost to death, they will recover if a normal saline solution is introduced into the circulation. If the heart gets something to act on, it can be kept going until natural vascular fluids have time to form again. The saline solution (one teaspoonful of salt in a pint of warm sterilised water) may be introduced direct into the veins; this is the best method, but it takes time, and often cannot be done without skilled assistance. On the other hand, the solution may be given by enema, or, what is, I think, better, into the tissues by means of a large hollow needle and funnel which are connected by tubing (the instrument makers now provide the apparatus). Half a pint may be injected into the tissues under each breast. The amount of saline fluid to be used or re-used depends on the patient's condition—two, four, or six pints. It should be injected slowly at a temperature of 98°, and we should continue it until the pulse gets slower and increases in volume. In addition to these measures in the treatment of the anæmia, the patient should be encouraged to take nourishment (such as concentrated meat juices, milk, &c.) which is quickly absorbed.

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"Treatment of Severe Hæmorrhage by the Infusion of Normal Saline Solution." By J. H. R. Glenn. Trans. Obst. Sec., Royal Irish Academy of Medicine, 1895.

"Collapse from Post-Partum Hæmorrhage Treated Successfully by Subcutaneous Injection of Ether." By A. V. Macan. *Dublin Journal of Medical Science*, 1876.

"La Pratique des Accouchements. Obstétrique Journalière." Par Henri Varnier. Paris, 1900.

UROSINE.

Urosine is a combination of quinic acid with lithia. It possesses the therapeutic properties of the quinic acid without its disagreeable taste. The chemical is administered in the form of tablets, containing half a gramme of the salt. Six or eight of the tablets are taken daily, usually dissolved in water or some bland liquid. Neumann (of Munich) and Weiss (of Bale) recommend the remedy in gout and arthritic rheumatism.—*Gazette des Hôpitaux.*

ACOIN.

Acoin is a very complex chemical body which possesses the anæsthetic properties of cocaïne without its toxicity. It produces anæsthesia more quickly, and the effect lasts longer, even when weak solutions are used. The following prescription for its hypodermic use is recommended:—℞ Acoin, 0·01 centigr.; chloride of sodium, 0·80 centigr.; distilled water, 100·0 centigr.—Make a solution.—*Gazette des Hôpitaux.*

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A Manual of Midwifery. By W. E. Fothergill, M.A., B.Sc., M.D.; Assistant-Physician to the Clinical Hospital for Women and Children, and Director Clinical Laboratory, Royal Infirmary, Manchester., &c., &c. Second Edition. With double coloured plate and 76 illustrations in the text. Crown 8vo. Pp. xviii and 506. Edinburgh: William F. Clay. 1900.

We are glad to see that Dr. Fothergill's excellent manual has reached its second edition. It places before its readers the teaching and practice of the Edinburgh School, and so supplies what was of late years a distinct want. As a result of its connection with this celebrated school it possesses a special interest, and it deserves a more careful criticism than would be the case if it merely represented the views of an individual.

The book may be criticised from two points of view. First from the personal point of view—if we may call it so—with reference to the manner in which Dr. Fothergill has carried out his task of setting the teaching of the Edinburgh School before "Students and Practitioners." Secondly from the scholastic point of view, with reference to the quality of the teaching of the Edinburgh School.

The first criticism is the easier to make, inasmuch as it is, on the whole, most favourable. There is somewhat too much theory, with a consequent sacrifice of practice, but perhaps this should not be treated as a personal error, but rather be attributed to the school. A more serious fault consists in a lack of logical arrangement, the prime cause of which is, we consider, to be found in the classification of labours which the author has adopted, to wit—*Natural*, *Præternatural* and *Anomalous*. To endeavour to provide students with a description which they will understand and work on such a basis is to undertake a most unenviable and

difficult task. Let us see how Dr. Fothergill performs it. The first difficulty with which he meets is that of providing suitable definitions. Natural labours he defines as "head first labours;" præternatural labours as those in which the breech or lower extremity, or the trunk or upper extremity, presents; and anomalous labours as those in which some element of danger occurs to mother or child apart from the presentation. Further, natural labours are subdivided into "*normal*" and "*morbid*;" normal labours are those in which the vertex presents, and in which labour ends favourably for mother and child without operative assistance in twenty-four hours; and morbid labours are apparently those in which this course does not occur, but in which labour becomes either "lingering" or "instrumental," into which two sub-sub-divisions they are divided. Surely the first essential of any classification is that its classes and sub-divisions are respectively distinct from one another, and do not overlap. And, surely, if a classification of labours is to be of any use, it must be possible to specify the nature of a given labour by mentioning the class and sub-division to which it belongs. Consequently, if a labour can be allotted to more than one class or sub-division the classification falls to the ground. Will Dr. Fothergill's classification stand this test? How, for instance, is the following case to be classified? A patient comes into labour at full term. The fœtus presents by the breech, and is not expelled although labour has continued for many hours. The attendant, who believes he is acting correctly, applies forceps, and delivers a living child. During the third stage there is violent hæmorrhage, and the placenta is retained. The latter is removed manually, and the patient makes a satisfactory recovery. By virtue of the presentation this case was a "præternatural labour;" by virtue of the fact that labour was both lingering and instrumental, it would seem to have some right to be included in the sub-division "morbid," and hence in the class "natural labours," even though the head did not present; and by virtue of the fact that hæmorrhage occurred and that the placenta was retained it was an "anomalous labour."

The next difficulty into which this classification drags Dr. Fothergill is the arrangement of subjects according to the

classes and definitions which he has laid down, and the arrangement adopted is as unsatisfactory as are the classes. All attempts to treat the various presentations in a connected manner are impossible. Vertex presentations are taken first, and then, after he has discussed the various conditions of the "powers," the "passage" or the "passenger" which may cause lingering labour, he comes to face and brow presentations, and finally to breech and transverse. It is rather startling to find contracted pelvis, tumours of the pelvis, fœtal monstrosities, and brow presentations grouped in the class of natural labours. And it is most confusing to find part of the pathology of pregnancy, including the sections on abortion, placed before the chapters on the various labours, while the "Hæmorrhages before the expulsion of the child" are treated in the chapter "Complex Labour."

Perhaps we are incorrect in attributing this *olla podrida* of Denman's ancient classification to Dr. Fothergill. It may be that the exigency of following the teaching of the Edinburgh School forced such a classification upon him.

The chapter on the forceps is good, and most interesting. It is, however, rather a pity that there is no mention of the value and use of the various alterations in position of the traction handle with regard to the rods, of which Dr. Milne Murray's forceps permits.

The second part of our criticism—*i.e.*, criticism bearing upon the quality of the teaching of the Edinburgh School—is more difficult, as we have a natural diffidence in seeming to disapprove any of the teaching of such an eminent body. However, if an opinion of their teaching as brought before us in Dr. Fothergill's work is to be given, we must say that there appears to be a tendency to negatively depreciate the value of various modern additions to the practice of midwifery, inasmuch as many valuable modern practices have either been passed over in a most cursory manner or all mention of them has been omitted. Surely, the value of abdominal palpation ought not be depreciated at the present day. Yet it is disposed of in four short sentences in three separate places, of which not one conveys the slightest hint as to how it is to be performed. In discussing the treatment of face presenta-

tion, there is no mention of Schatz' method of converting a face into a vertex. In the diagnosis of contracted pelvis, there is no mention of the fact that there is such a thing as a reliable internal pelvimeter—Skutsch's. In the treatment of inevitable abortion, no mention is made of Dührssen's method of plugging the utero-vaginal canal. Higginson's syringe is said to furnish the best means of douching out the uterus in cases of post-partum hæmorrhage. In discussing craniotomy instruments, Braun's cranioclast is given as the instrument of choice, and there is no mention of Auvard's combined cranioclast and cephalotribe, although, in addition to the power the latter instrument possesses of crushing the head, it is capable of being used in a similar manner to Braun's cranioclast if it is so wished.

Perhaps the strongest evidence of the dislike which is manifest through the book to the adoption of the teaching of any other school than Edinburgh itself is to be found in the chapter on accidental hæmorrhage. The latter is a condition, the prognosis of which, according to Dr. Fothergill, "is always grave;" in the external form "immediate treatment is often successful," in the concealed form "half the patients die." Of the concealed form of hæmorrhage we say nothing. It is a condition for which a satisfactory treatment has yet to be found. But of the external form there is much to be said. The prognosis, which is furnished as a result of the Edinburgh treatment, is by implication not encouraging—"the prognosis is always grave" and "immediate treatment is often successful." The treatment recommended is as usual—"rupture the membranes," and a little further on come the stock remarks, "Plugging the vagina must be carefully avoided in accidental hæmorrhage. The site of bleeding is too high up to be affected by this kind of pressure, and its only result is to convert an external into an internal hæmorrhage." Before making, or rather repeating, this statement, might not Dr. Fothergill have endeavoured to be sure of his facts? Since 1891 all serious cases of external accidental hæmorrhage have been treated at the Rotunda Hospital, Dublin, by plugging the vagina. And we deliberately state that the results which have been obtained at that hospital by this line of treatment are directly comparable with the results of

bi-polar version in placenta prævia, and that the mortality among these cases—a mortality which is almost entirely caused by cases which were moribund when admitted—is less than 3·5 per cent. The Edinburgh treatment of placenta prævia—as of accidental hæmorrhage—is most classical. One gathers from it that in most cases the vagina must be plugged before version can be performed, and that the prognosis is "very grave." If the latter is really the case, it must be due to the association of plugging and bi-polar version, as the mortality of the latter treatment alone is about 2·5 per cent. *En passant*, we may remark that Dr. Fothergill's use of qualifying terms, in discussing the palliative treatment of placenta prævia, leads to a rather awe-inspiring suggestiveness:—"If it is desired to use palliative treatment, the patient should be put absolutely to rest, in a cool and quiet room, perfect repose being secured by an opiate."

The portions of Dr. Fothergill's work which deal with the theory of midwifery are—in all particulars—admirable. His style is clear, and the book constitutes a most instructive and readable manual of Edinburgh teaching.

A Text-book of the Practice of Medicine. By James M. Anders, M.D., Ph.D.; Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia; Attending Physician to the Medico-Chirurgical and Samaritan Hospitals, Philadelphia, &c. Third Edition, revised. In two vols. London: Rebman, Ltd. 1900. Pp. 1,292.

We congratulate Professor Anders on the success with which his text-book has met. The first edition is only a few years old, and less than a year intervened between the publication of the second and third. In spite of the shortness of this interval, the author has thoroughly revised the work before us. Several new subjects have been introduced, and a number of articles have been re-written. The result is an excellent work which we can recommend. It represents very well the views on the subject of Medicine which prevail at present in America.

We say "in America," because in some points medicine is in this country regarded somewhat differently. For example, the following sentence with which the section on the treatment of appendicitis commences hardly represents the usual practice in Great Britain :—"Whether imminent danger of perforation exists or not, the physician who is called to a case of appendicitis should at once request the services of a competent surgeon." And again :—"With rare exceptions, prompt surgical intervention should be recommended." From such statements as these, made by careful and reliable men, we must conclude that appendicitis in the United States generally runs a very different course from that which we are accustomed to see in Ireland.

Dr. Anders regards the term "capillary bronchitis" as synonymous with broncho-pneumonia—a view for which there is much to be said. At the same time he suggests that it should be used with the meaning of "bronchitis of the smaller tubes," but not of the terminal bronchioles. When these are inflamed, he holds that the alveoli are affected as well, and prefers to speak of broncho-pneumonia.

Many of the rarer diseases which are omitted in most text-books will be found described here. All prescriptions are given both in the ordinary and in the metric form.

The book is excellently printed, and will well repay perusal and reference.

Transactions of the Pathological Society of London. Vol. L. London : Smith, Elder & Co. Pp. 374.

We are rather surprised to read in the Annual Report that although there are 679 members of the Pathological Society, the average attendance at its meetings was only 33.

At two of the meetings reported in this volume a discussion took place on the so-called "pseudo-tuberculosis"—*i.e.*, diseases characterised by the growth of tubercles in the organs and tissues, but not caused by Koch's bacillus. It was shown that many agencies cause the growth of such nodules, and in order to avoid ambiguity it was recommended that the use of the term be discontinued.

Some remarkable cases of tumours of the pineal body are

described and figured. Dr. Still records five cases of tubercular ulceration of the stomach in children.

Dr. Herringham contributes a careful and elaborate paper on the toxicity of normal urine. He concludes that when an animal is killed by the injection of urine into its veins, the active poison is potash.

Transactions of the Clinical Society of London. Volume XXXII. London: Longmans, Green & Co. Pp. 296.

We are glad to see that the Clinical Society is flourishing (the Society now includes 577 members), and that the standard of work done is as high as ever.

Dr. Still records a number of cases in which a bright red erythematous rash occurred after the administration of an enema—sometimes it resembled the rash of scarlatina. He suggests that some of the cases of so-called "surgical scarlatina" are really due to the enema administered previous to operation.

Mr. Arbuthnot Lane describes two very interesting cases in which a deficiency in the shaft of the ulna was treated by the insertion of a rabbit's femur.

Dr. W. W. Cheyne mentions and illustrates a case in which the nasal bones having been destroyed, the bridge of the nose was repaired by the implantation of rabbit bone.

Drs. Fripp and Pitt record cases of acute pancreatitis.

Mr. Morrison has written a paper on gastric surgery; his cases are illustrated by diagrams showing the operative measures employed.

The volume is well illustrated.

The Pasteurisation and Sterilisation of Milk. By Albert E. Bell, F.I.C., F.C.S., District Analyst for Dorset. London: Rebman. 1899.

This little book of 40 pages opens with some elementary ideas of bacteriology, taken almost *verbatim* from Freudenreich, and illustrated by three crude sketches of bacteria, obviously original. Mr. Bell then goes on to describe a few patented processes for freeing milk more or less perfectly from living

germs, and illustrates them with blocks from the makers' catalogues. Evidences of carelessness abound—*e.g.*, on page 28, when he means to say that a cylinder is rotated through an angle of 180°, he says "turned through 180° F." The booklet may prove useful to the average dairyman.

The Bacteriology of Every-day Practice. By J. O. Symes, M.D. (State Medicine), Lond., D.P.H., &c.; Assistant Physician Bristol General Hospital; late Bacteriologist Bristol Royal Infirmary. London: Baillière, Tindall & Cox. 1900. (Medical Monograph Series, No. 2).

This little book consists mainly of notes drawn up by the writer "for the use of clinical clerks in their ward-work, with a view—(1) to point out in what cases bacteriological examination might help in clinical diagnosis; (2) to describe methods of securing and identifying microscopic specimens such as the student could himself prepare; (3) to give directions for taking cultures and for preserving tissues to be sent to the laboratory." It is in no sense a manual of bacteriology, and contains no information as to the preparation of nutrient media. Though the writer supposes that there exists amongst general practitioners a need for information of the kind he imparts, we fancy that his work will be of use mainly, if not exclusively, to Residents in hospital. It is too incomplete and "scrappy" for the qualified practitioner. The writer commits the fault of imposing too heavy a burden of precautions on his readers. What resident pupil would tackle to work at a film preparation if he had, first of all, to soak his cover-glass "for 3 hours in a mixture of concentrated sulphuric acid 6 parts, potassium bichromate 6 parts, and water 100 parts; then washing in distilled water and storing in absolute alcohol?" In prescribing this reminiscence of van Ermengem as a general rule, Dr. Symes surely loses sight of the fact that he is writing for juniors. Similarly, when he directs them to use distilled water where tap-water would do just as well in 99 cases out of 100. The same inability to distinguish between the essential and the non-essential is shown when he staggers his clinical clerk with a list of 17 organisms concerned in suppuration, including such phantoms as *Staphylococcus cereus*

albus and *flavus*, *Staphylococcus citreus*, *Micrococcus pyogenes tenuis*, and *Bacillus pyogenes fœtidus*. On the other hand, he sometimes sins by omission—for example, when he leaves the cholera vibrio out of a list of organisms that do not stain by Gram. We cannot recommend the book to any other class save that for which it was originally intended.

The Edinburgh Medical Journal. Edited by G. A. Gibson, M.D., F.R.C.P. Ed. New Series. Vol. VII. Edinburgh and London: Young J. Pentland. 1900. 8vo. Pp. 624.

This excellent "monthly" pursues the even tenor of its way under the skilful guidance of its editor, and with the able help of his colleagues in the great Edinburgh School. There are no fewer than thirty-eight original articles in the volume before us—the seventh of the new series. Then there are clinical records, reviews of British and foreign literature, monthly reports on medicine, surgery, and midwifery, reports of the medical societies, analytical reports, obituary notices, and monthly notes (by Dr. A. Lockhart Gillespie) on meteorology and vital statistics. At page 102 the death of our own fellow-citizen, Dr. Edward Hamilton, is alluded to in feeling and complimentary terms.

Like its predecessors, the seventh volume of the new series of the *Edinburgh Medical Journal* is exceedingly well brought out—paper, type, and binding being all well up to the mark.

Tropical Diseases: A Manual of the Diseases of Warm Climates. By Patrick Manson, C.M.G., M.D., LL.D. (Aberd.); &c., &c. Revised and Enlarged Edition. London, Paris, New York and Melbourne: Cassell & Co. 1900. 8vo. Pp. 684. With 114 Illustrations, and two coloured plates.

The history of this work renders any detailed notice unnecessary. Its first edition was published in April, 1898. It was reprinted in June and September of the same year,

and again in 1899. And now an enlarged and revised edition is issued to an expectant medical public.

Shortly after the appearance of the former edition it gave us unfeigned pleasure to speak in warm terms of praise of the book. Dr. Manson has well maintained, in this new issue, his own reputation and that of his work. As an example of how thoroughly up to date Dr. Manson has kept this excellent manual we may instance the statistics of antityphoid inoculation given at pages 224, 225. The figures are those contributed to the *British Medical Journal* for January 20th of the present year, by Professor A. E. Wright, of Netley Hospital. With Dr. Manson we are ready to conclude that typhoid fever is not properly classifiable as a tropical disease. Nevertheless, its frequent occurrence in warm climates justifies the account of the disease which the author gives, and his reference (without comment) to Professor Wright's investigations.

We so fully analysed the first edition of Dr. Manson's "Tropical Diseases" that it is only necessary again to express our favourable opinion of the work, which has met and satisfied a long-felt want in medical literature—a want which became acute when the marvellous wave of "Imperialism" recently swept over the world-wide dominions of the British Crown.

Journal of the Scottish Meteorological Society. Third Series. Nos. XV. and XVI. Edinburgh and London: William Blackwood & Sons. 1900.

THIS bulky fasciculus of the Journal of the Scottish Meteorological Society contains tables for the years 1897 and 1898, and reports from the Council to the General Meetings of the Society, held on July 21st, 1898, March 22nd and July 31st, 1899, and March 19th, 1900. There are also additional returns of rainfall for 1897 and 1898, the usual meteorological returns from Scottish lighthouses for the same years, and a detailed report on the "Meteorology of Scotland" for 1897 and 1898.

The papers contained in the fasciculus are four in number, and are all of great scientific value. First comes a charac-

teristic paper on the Annual Rainfall of Scotland from 1800 to 1898 by the veteran Secretary of the Society, Dr. Alexander Buchan. It is followed by a report by Mr. R. C. Mossman, F.R.S.E., on humidity and temperature variability deduced from Mr. Wragg's unique series of meteorological observations taken on Ben Nevis during the summer of 1882. The same enthusiastic meteorologist—we refer to Mr. Mossman—contributes a very complete and most valuable paper on the barometric and thermometric gradients between London and Edinburgh in the years 1764 to 1898. The author shows that the greatest inversion of temperature observed in any month during that long series of years occurred in December, 1890, when Edinburgh was 6·1° warmer than London, where a hard frost prevailed. This paradox was caused by the persistence of a large area of high barometric pressure over the Continent. Owing to this anticyclone depressions arriving from the Atlantic could not effect a passage into Europe, though their S.W. winds and warming influence were felt in Ireland and Scotland. The last article is a short one by Mr. R. T. Omond, F.R.S.E., on the temperature correction of barometers. His experiments indicate that, to get a satisfactory reading of barometers as at present constructed, it is necessary that during the hour previous they should not be exposed to a change of temperature exceeding 3° F.

Transactions of the American Pediatric Society. Vol. XI. New York. 1899.

These transactions are reprinted from "The Archives of Pediatrics," and contain some very valuable papers on Diseases of Children.

Those papers of most value are:—An Address on the Methods of Teaching Diseases of Children, Enlarged Bronchial Glands, Congenital Heart Disease, Incontinence of Urine in Children, and two papers on Infantile Scurvy. The volume is an extremely valuable collection of interesting and scientific work upon Diseases of Children, and should be consulted upon the foregoing topics. It is an eminently useful publication.

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By Henry T. Bewley, M.D. Univ. Dubl.; F.R.C.P.I.; Physician to the Adelaide Hospital; and Lecturer on Forensic Medicine and Hygiene, Trinity College, Dublin.

I. DIAGNOSIS OF AORTIC ANEURYSM.
II. PNEUMOTHORAX FROM GAS-PRODUCING BACTERIA.
III. MANŒUVRES TO ELICIT A PLEURAL FRICTION-SOUND.
IV. THE TREATMENT OF INFLUENZA IN CHILDREN.
V. THE TREATMENT OF BRONCHO-PNEUMONIA IN CHILDREN.

I. THE EARLY DIAGNOSIS OF AORTIC ANEURYSM.

Dr. Moritz Schmidt (Frankfurt a. M.) refers to two very important aids to the diagnosis of aortic aneurysms which have been discovered in recent years—tracheal tugging and the use of X-rays.

Tracheal tugging was present in 19 out of 31 cases which he examined during the last 5 years. It is best felt when the cricoid cartilage is pushed upwards with the index and middle fingers of the right hand, the head of the patient being bent a little backwards. A pulsation downwards is felt which ought not to be confused with the general pulsatory vibration of the larynx that occurs not infrequently in excited patients. Cardarelli presses the larynx over to the left and declares that thereby a pulsation to the right can be felt. Schmidt finds Oliver's method better, but in any case he regards the symptom as one of the most decisive in the early stages of the disease.

The second important aid to the early diagnosis of aortic aneurysm is illumination by means of the Röntgen rays. This ought to be always employed when possible. In order to diagnosticate an aneurysm of the aorta by means of the Röntgen rays with certainty, Rosenberg would require evidence of a round tumour pulsating in all directions.

But there are certainly aneurysms which show pulsation only in localised spots; in most cases, however, one sees in the Röntgen ray shadow a tumour pulsating in all directions.

Four skiagraphs are printed, showing clearly the position and size of the aneurysm.—*Med. Chronicle,* March, 1900.

II. PNEUMOTHORAX FROM GAS-PRODUCING BACTERIA.

Finley (Montreal) publishes notes of one example of this rare condition, and refers to reports of three others. In three of them there was some abdominal disease, and in the fourth there had been a wound of the thoracic wall, from which the infection probably originated. Of the abdominal cases, one was an appendicitis, one a tubercular peritonitis, and one a case of sub-diaphragmatic abscess.

The organism found was in two cases the *Bacillus aërogenes capsulatus,* and in two cases the *Bacillus coli.* In all these cases the symptoms developed gradually, and not suddenly, as is usually the case in pneumothorax.

The chemical examination of the gases in these cases is of importance. In some cases much hydrogen was found; in one the amount was so great that the gas as it emerged from the pleural cavity was inflammable. He states that the presence of hydrogen or of other gases not found in the atmosphere is conclusive proof of the pneumothorax having been induced by gas-producing bacteria.—*Montreal Med. Jour.,* Oct., 1899.

III. THE PLEURAL FRICTION-SOUND: MANŒUVRES FOR ITS ELICITATION.

The main interest of this paper lies in Dr. Abrams' account of various plans which may be adopted to facilitate the recognition of the pleural friction-sound when obscured by other signs, or when it is so slight as to escape observation under ordinary circumstances. Thus the inhalation of amyl nitrate may cause the disappearance of râles or rhonchi previously overpowering the friction-sound. Conversely friction may be obliterated and râles remain if the lower part of the chest is fixed by pressure of an assistant's hands (Bruen). The author describes three methods which he employs, and which he believes to be original:—

(1) "*The Arm Manœuvre*:—The patient suspends respiration after full inspiration, after ordinary breathing, or at the end of expiration. Then the arm on the affected side is raised while in extension, either by the patient, if intelligent, or otherwise by the physician, till it reaches the side of the head. . . During the time the arm excursions are made the suspected area is auscultated. By the arm manœuvre, the movement of the parietal against the visceral pleura is opposite in direction to that occurring during the respiratory act, and for this reason the pleuritic sound may often be elicited after the sound has been exhausted in the ordinary act of breathing. . . . . In obtaining the friction-sound after this method, care must be exercised lest the patient breathe. The sound thus obtained can only emanate from the pleura, and this fact alone establishes its value in differential diagnosis."

(2) "*The Decubital Manœuvre*:—Let the patient lie on the affected side for one or two minutes, then direct him to rise quickly and suspend respiration. Now auscultate the affected area, at the same time directing the patient to take a deep breath. . . . One error is likely to suggest itself by this method, and that is, the creation of atelectatic crepitation. . . . If, however, the lungs have been fully expanded prior to the execution of the decubital manœuvre and the lateral posture is only of short duration, the danger of misinterpretation will be reduced to a minimum. . . . This method is based on the fact that the position adopted by the patient approximates the two layers of the pleura. . . ."

(3) "*Pressure in an Intercostal Space*:—Pressure with the stethoscope usually intensifies the friction-sound. . . . If . . . pressure is made in an intercostal space, and not on a rib, we can more certainly approximate the costal to the visceral pleura. . . . To carry out this method successfully the arm on the side to be auscultated is first raised; this act materially widens the intercostal spaces."—*Med. Chronicle*, May, 1900.

IV. ON THE TREATMENT OF INFLUENZA IN CHILDREN.

Dr. H. B. Sheffield (New York) calls attention to the use of benzoate of sodium. He says it almost acts as a specific,

and its use has not obtained the attention it deserves. He began to use it five years ago, when a child with a severe attack of acute articular rheumatism was rapidly cured with sodium benzoate and salol. Encouraged also by the fact that large doses are well borne by children, he decided to employ it in influenza, an epidemic prevailing about that time. The results were exceedingly satisfactory, most of the symptoms having subsided within forty-eight hours. Since then sodium benzoate has formed his remedy not alone in influenza but in all its complications as well. Occasionally it is found necessary to administer small doses of acetanilide for reduction of high temperature and relief of pain, and, when the latter is severe, also a little codeïn. He states that after having given acetanilide to thousands of patients in diverse diseases he has yet to see any untoward results following its use, provided proper caution is taken in prescribing a moderate dose. Where any depression is to be feared a small dose of caffeïn is a safe addition. Whenever "rheumatoid" pains predominate he combines the just-mentioned drugs with salol, which acts at the same time as an intestinal antiseptic. Thus, when he is called upon to treat a case of the *grippe* of moderate severity he orders:

℞ Sodium benzoate, Salol, Acetanilide, } of each - - 1½ grain
Caffeïn, - - - - ¼ „

M. Make one powder.

Sig.: One powder every three hours to a child six years old, or, if the pain is severe and the child is kept awake, add one-twelfth grain of codeïn sulphate to each powder. Where children refuse to take powders he prescribes the following mixture, again adding codeïn if necessary:—

℞ Sodii benzoat. Antipyrin. } āā - - - ʒss.
Liquor ammon. anisat. Syr. scillæ comp. } āā - - ʒij
Syr. althææ - - - - fʒjss.
Aquæ anisi - - - q. s. ad fʒij.

M. Sig.: One drachm every three hours to a child six years old.—*N. York Med. Jour.*, June 30, 1900.

V. THE TREATMENT OF BRONCHO-PNEUMONIA IN CHILDREN.

Dr. D. A. Hodghead, from a study of twenty-five cases, reports very favourably on the use of calomel and belladonna. Other medication is stopped, poultices removed, the child is wrapped in soft, loose clothing, and water is substituted temporarily for milk. The room is to be kept at an even temperature, and the atmosphere is not surcharged with moisture. Calomel in one-tenth of a grain doses is given every hour until a free movement of the bowels is obtained, and, alternating half-hourly with the calomel, two drops of the tincture of belladonna. As improvement begins the belladonna is reduced to drop doses hourly. The temperature falls, respirations become less rapid and are deeper, rattling and larger râles disappear; the moist râles become few and feeble; pulse and cough improve, and the patient can sleep and take nourishment, In the patient whose case is specially cited, belladonna rash became well marked, after which the drug was gradually withdrawn. Calomel is of value as a cathartic, even early in the disease, but the belladonna is not effective until the disease is well established, when the early, dry, congested state of the bronchi has given place to the superabundant mucus and mucopurulent secretion. Ammonia combinations liquefy and tend to increase the amount of secretion; belladonna diminishes them, stimulates respiration, thus aiding elimination. A child under five years expectorates but little. An advantage in this method of treatment is the discarding of steam-tent, ice-pack, &c. Both drugs suggested above are well borne by children.—*The Pacific Medical Journal*, 1899, Vol. XLII., No. 6, p. 326, and *Amer. Journal of Medical Science*, April, 1900.

(*To be continued.*)

BROMOFORM MIXTURE.

M. Gay (*Jur. de Méd. de Bordeaux*) uses the following formula:—Bromoform, 1 gram. 20; chloroform, 0 gram. 80; rum, sufficient quantity to make 120 cc. mixture. One teaspoonful of the mixture contains five centigrammes of bromoform and three centigrammes of chloroform.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Edward H. Bennett, M.D., F.R.C.S.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—A. V. Macan, M.B.
Sectional Secretary—J. H. Glenn, M.D.

Friday, March 16, 1900.

The President in the Chair.

Exhibits.

Dr. Smyly—(*a*) Ovarian Abscess removed by Cœliotomy; (*b*) Myomatous Uterus removed by Abdominal Hysterectomy; (*c*) Ovarian Cyst removed after four tappings.

Dr. Purefoy said it was hard to resist the conclusion that the distension was due to the paralysed condition of the intestines, and that was the more surprising as they had learned that the intestines had escaped observation during the operation. He recollected one such case in his own experience, in which, although the tumour was not large, it was very difficult to lift it and the uterus out of the pelvis, and a very similar state of affairs followed. The operation was, however, protracted, and the intestines were exposed to an amount of unavoidable handling. The patient died on the fourth day, and he attributed death to the exposure and handling. In three cases in the Rotunda considerable assistance in securing the action of the bowels was derived from the galvanic current.

Dr. Alfred Smith had had a precisely similar case, in which the chief interest was that the patient complained of distension in the upper portion of the epigastrium.

Dr. Kirkpatrick mentioned the case of a child eighteen months old operated on for a hernia which was not down. There was some difficulty in finding the sac, and the operation took a considerable time. The patient apparently rallied from the operation, but afterwards began to vomit, and died in a few days. At the time it was thought that it might be internal strangulation or sepsis, but the temperature was not that of sepsis, and at the *post-mortem* no obstruction was found. The intestine was uniformly distended, and there was no sign of peritonitis. In that case the intestine had not been handled at all.

The President (Dr. Macan) thought no amount of handling would give rise to the condition—he would go further, and say it was rather the want of handling. Sometimes the intestines were not properly replaced after the Trendelenberg position.

Rotunda Hospital Report.

[This Report will be found in Vol. CXIX., pp. 186, 261, 331, 462.]

Dr. Purefoy said: Professor Smith was not quite satisfied as to the omission of sundry dates. I think, in the important cases where these particulars were of interest or importance, they were supplied. It is a little surprising to me that a teacher of Professor Smith's attainments should not be familiar with the term "mixed" applied to accidental hæmorrhage. The term has some advantages, but I am not prepared to defend it. Professor Smith suggested that some of the cases described as accidental hæmorrhage were more probably cases of low insertion of the placenta. I do not know that there is any good ground for that. It is true that when dealing with hæmorrhage in the sixth month of pregnancy it may be quite impossible to determine whether the placenta is low down or not. We examined our cases as carefully as possible, and our diagnosis in each case was confirmed. With regard to the table dealing with cases of accidental hæmorrhage, Professor Smith referred to it as proving the thing we did not want to prove, but I think in coming to that conclusion he was a little hasty. Our observation in the hospital for some years past has furnished us each year with accumulating proof that the use of the vaginal tampon in severe accidental hæmorrhage is a wise and judicious proceeding. We do not teach that it is a treatment applicable to every case of accidental hæmorrhage, and I take care in speaking to the class to point out that many cases met with can still be treated by assisting the uterus to contract, and then rupturing the membranes. The table shows that in only five cases did we consider the use of the tampon necessary, and that shows that we are

not so firmly wedded to any particular line of treatment as to apply it indiscriminately. Professor Smith thinks we have made a distinct advance in omitting all allusion to the duration of second stage where the forceps is applied. I still think that the question of the duration of the second stage should be taken into account. It may be open to abuse, but so is every other good practice. I adhere to the opinion that the position of the twins is correctly described, and that it is correctly stated as a case of locked twins, the nature of the complication being in no way altered from the fact that one head was collapsed. The method of performing Porro's operation is, no doubt, old-fashioned, but Professor Smith's disapproval does not make me dissatisfied with it. Dr. Smyly formulated the very serious charge against us of introducing a new and unwise treatment of puerperal eclampsia. I fail to see how he deduces from the narration of the case any grounds for suggesting that we have adopted a new mode of treatment. The case was briefly this :— The patient, a primi-para, was admitted to hospital in a bad condition, with marked œdema and scanty albuminous urine. She was far advanced in pregnancy. The treatment adopted had the effect of bettering the condition to a large extent, so that the albumen almost disappeared from the urine. This improvement lasted only 48 hours, and in spite of the treatment the urine again became scanty and albuminous, and the swelling returned, and her condition was such that it appeared to me very likely eclampsia would supervene if treatment were not adopted. I still think that the emptying of the uterus by the safest method was the proper proceeding. It is true that eight hours afterwards an eclamptic fit occurred, which Dr. Smyly attributes to the operation, but I do not agree with him. The condition of the patient was such, with the distension of the labia, that the skin covering one gave way. It will not be hard to understand that under these circumstances continuance of pregnancy was the last thing to be desired. I share to the fullest extent Dr. Smyly's feelings as to the urgent need for obviating the grievous results to our patients in this country from the ignorance and stupidity of our midwives. I am not sure that the establishment of a new register will deal with the difficulty or lessen the risks in any appreciable degree. In some of the forceps cases the child's head had not passed the brim. Dr. Kidd referred to the treatment of inverted uterus. I think the method adopted in this case was the proper one, and it was attended with a satisfactory result. Dr. Jellett referred to the abuse of the curette. I think many cases of abortion can be treated with the finger. It is true that in the hospital the curette is used in a number of cases,

but most of the cases coming in are cases of incomplete abortion, with a discharge for days before, and in that condition they are not beneficial occupants of a ward where there are other patients. Dr. Hastings Tweedy, referring to the case of hæmatoma, made a statement which surprised me. It was that in both his own practice and when in the Rotunda he found that cases were common in which a gaping rent and bleeding cervix protruded between the labia. So far as I know they are not common at present. I do not see any connection between a rent and a bleeding cervix and the condition which I have described in the Report. The case of hæmatoma of the cervix was one in which extravasation of blood had taken place into the tissue of the cervix. As to Dr. Macan's remarks *re* use of the curette in the treatment of abortions, I think that probably the emptying of the uterus with the finger, which is possible in most of these cases, requires more dexterity and is more difficult than treatment with the curette. I endeavour, in speaking to the class, to impress how much can be done with the fingers. As to plugging in cases of abortion, when in the Coombe for the first few months I did tampon in a good many cases, but subsequently found I could dispense with it. The number of cases calling for it is very few indeed. Dr. M'Clintock's paper on rupture of the vagina is one of the most interesting of the many he has written. It is to be found in the *Dublin Medical Journal*. The expression "hardness of the uterus" on palpation in cases of internal accidental hæmorrhage does not commend itself to Dr. Macan. Perhaps "hardness" does not convey what we mean. The feeling is one of tension, the uterus becomes more resistant. Dr. Macan thought the forceps was used too frequently. I may refer him to the report of the Hospital which he published in 1889, dealing with 1,000 cases. The percentage of forceps cases was five—distinctly above the percentage in our report. Regarding the occurrence of icterus, Dr. Macan thought the percentage in infants ought to be 80. Our report gives it as between 15 and 20, and we will not concede that our returns are not as accurate as any similar ones. As to the use of the bag in placenta previa, the results in the hospital are so good that I do not feel tempted to change our present mode of treatment for any other.

Atmo-kausis and Zesto-kausis.

Dr. Macan read a paper on Atmo-kausis and Zesto-kausis.

Dr. Hastings Tweedy thought the instrument had a great future before it. If even a part of what was claimed for it was

realised it would almost revolutionise the treatment of endometritis. When used for septic endometritis, where the germs had penetrated to a considerable degree, he feared if the cauterisation could destroy these germs, it would destroy the whole endometrium.

Dr. Jellett said that, judging from the effect of steam on the hand, a 10 or 15 seconds application would not give in any ordinary case a very deep amount of cauterisation of the uterus. The instrument would be an adjunct to the curette, but he could see no ground for supposing that it would take its place. If it were a good cauterising agent why should it not be used for a short time after the curette, and avoid bringing on a slough in parts of the uterus that had been very much thinned? Even if there were a slight amount of danger attaching to its use, he thought, in cases of hæmophilia, it might be the means of saving a woman from the loss of her uterus.

Dr. Gordon asked what was Dr. Macan's own opinion of the instrument?

Dr. Macan, replying, said he did not intend to give an opinion of the instrument. He had given the results of some 800 cases from the reports of the most eminent gynæcologists in America and Germany. In a very short time the instrument had met with an extraordinary reception abroad, and was looked upon as one of the best additions to our therapeutics. The depth of cauterisation was regulated by the time the instrument was allowed to act. If it were desired to close the cavity altogether it would probably require two operations. As to sterilisation of the mucous membrane, Dr. O'Sullivan had told him that he had used superheated steam at 110°, and found it did not kill streptococci.

The Section then adjourned.

NOTE ON TWO CASES OF CUTANEOUS MANIFESTATIONS IN THE COURSE OF INFECTIOUS DISEASES OF THE DIGESTIVE TUBE.

P. Engelbach found in the recent epidemic of typhoid fever at Havre that severe eruptive phenomena were frequent. He cites an instance of scarlatiniform generalised eruption in typhoid with cardiac complications followed by death, and a case of enteritis with similar eruption and death in the course of convalescence. He does not look upon the erythema as belonging to the typhoid process but as a secondary infection.—*La Revue Médicale de Normandie.*

BUBONIC PLAGUE.

The following Memorandum has been drawn up by the Royal College of Physicians of Ireland:—

I. *Description of the Disease.*—Bubonic Plague is a feverish disease common to man and several of the lower animals, such as rats, mice, rabbits, and guinea pigs. It is communicable from man to animals, and from animals to man, especially by inoculation. Any break in the skin or mucous membranes, however trifling, may serve for the introduction of the poison of the disease into the system. Thus a scratch or pin-prick may be infected by a common house fly; or a flea, or other parasite, may infect through the puncture it makes in a previously sound skin.

The poison of plague is due to a bacterium and the toxins—or poisonous principles—it produces. This poison becomes virulent to an extreme degree in the presence of dirt, overcrowding, want of ventilation, and destitution. It also becomes virulent when introduced into the body of a badly-nourished, unhealthy, or intemperate individual. Hence the urgent necessity for attention to personal and home cleanliness, for good food, fresh air, free ventilation, and strict temperance. At this time, especially, the clergy of all denominations might, with advantage, urge upon the people the importance of cleanliness in the fullest sense of the word.

Symptoms of plague show themselves after a latent or incubation period of from two to eight days from the time the poison is received into the system. The victims feel weak in mind as well as in body. They are depressed. Appetite is lost. The limbs ache. There are feelings of chilliness, giddiness, and palpitations. Dull pains are felt in the groins. Then fever sets in with headache, giddiness, drowsiness or wakefulness, or troubled dreams in sleep. Nausea and vomiting and diarrhœa may occur. The face becomes drawn and haggard, the eyes are bloodshot. The patient walks dreamily or staggers like a drunken man.

Soon the fever increases, the face looks bloated, the eyes are fixed and sunken, the mouth is dry, and thirst is intense. Then raving comes on and the sufferer passes into a state of partial or complete unconsciousness, or fits may occur.

The name "bubonic plague" is derived from the remarkable

swellings of the lymphatic glands which take place, especially in the groins, but also in the armpits, and sometimes (particularly in children) at the angle of the lower jaw. There is great pain in these swellings, which often turn black, soften and burst, or slough. Bleedings may also occur from the nose, mouth, lungs, stomach, bowels, or kidneys; and the skin may become covered with purpuric spots from bleedings into its substance.

Death may take place at any time, usually between the third and fifth days of the attack; on the other hand, when patients recover, they do so slowly, tediously, and painfully.

Sometimes plague shows itself as an inflammation of the lungs (pneumonia). This is a very infectious and dangerous form, requiring great care in the management of the expectoration—the stuff which is coughed up should be at once disinfected and destroyed.

II. *Management.*—Those sick of plague should be at once removed to an isolated hospital, their rooms being thoroughly cleansed and disinfected by the Sanitary Authority. The bodies of the dead should be cremated, or buried with quick lime in deep graves. Those who have been in close proximity to the sick ("contacts"), and those who have been in other ways exposed to infection ("suspects"), should be segregated in "refuges" provided by the Sanitary Authority, and closely watched until the usual period of incubation of plague has run out.

It is reassuring to know that plague, although a "catching" disease, is not nearly so taking or infectious as typhus, small-pox, scarlatina, or measles. Attendants on the sick in clean, roomy, airy hospital-wards, run little risk, provided they have an intact skin, and do not hang over the patients, or remain too long beside them.

A wholesale crusade should be made upon rats and mice in an infected or suspected district, and, above all, in vessels coming from a port where plague exists.

As the poison may possibly be swallowed in water or food contaminated with sewage or fæcal matter, no food should be eaten in the raw state, while water should be used for drinking purposes only after being boiled. In consequence of the possibility of milk being diluted with infective water, it likewise should be boiled before use.

The discharges from the bowels should be disinfected, and disposed of as quickly as possible. A wine-glassful of the

following disinfectant mixture should be poured into the vessels used by the patient, viz :—

Common sulphate of iron (green copperas), one ounce ;

Carbolic acid, a quarter of an ounce ;

Water, twenty fluid ounces, or one imperial pint.

Strict personal cleanliness should be practised, especially in connection with the feet, by which the poison is apt to be introduced into the system ; and the clothing should be adapted to the season and weather.

Infected bedding and all articles of clothing worn by the sick should be destroyed by fire.

All debilitating causes should be carefully avoided—such as excessive and long-continued fatigue and fasting ; overcrowding ; exposure to moist, stagnant air, or to air loaded with organic effluvia.

In order that the Sanitary Authority may obtain the earliest information as to the outbreak of Plague, the disease should at once be scheduled as notifiable under the provisions of the Notification of Infectious Disease (Ireland) Act, 1889 ; and the Act should be adopted without further delay in all sanitary districts adjacent to Dublin.

As regards curative treatment, a physican should be consulted at the earliest possible moment, in order that the rapid onset and advance of the disease may be arrested, if possible, by serum-therapy, or other means, and that other necessary measures may be taken to preserve strength, combat symptoms, and avert death.

Signed, by order of the College,

JOHN WILLIAM MOORE, M.D., Univ. Dubl.,
President.

JAMES CRAIG, M.D., Univ. Dubl.,
Fellow and Registrar.

September 10th, 1900.

GLYCOSOLOOL.

GLYCOSOLOOL is obtained by the action of oxypropionic acid ($C_3H_6O_3$) on chemically pure peptone, and of the theobrominate of sodium on the zymene of the trypsin of the pancreas of oxen or sheep. Dr. Schelder, who has been using the remedy, describes it as a very efficacious therapeutic agent in diabetes mellitus.—*Blatt. schw. Aertz.*

MEDICAL EDUCATION AND EXAMINATIONS IN IRELAND.

1900–1901.

MEDICAL students in Ireland, as elsewhere, have in the first instance to choose between University Degrees and Non-University Qualifications or Diplomas. Should they elect to try for an University Degree, their choice must lie between the University of Dublin, which requires a Degree in Arts before registrable Degrees in Medicine, Surgery, and Midwifery are conferred, and the Royal University of Ireland, which—while not requiring a full Arts Degree—yet rightly insists on a liberal education in Arts, tested by more than one searching examination in the same, before a candidate graduates in the three branches of medicine already mentioned—Medicine, Surgery, and Midwifery.

Outside the Universities, the chief Licensing Bodies are the Royal Colleges of Physicians and Surgeons. The Conjoint Examination Scheme between the Royal College of Surgeons in Ireland and the Apothecaries' Hall of Dublin has ceased to exist. The position of the latter body as a Licensing Corporation under the Medical Act of 1886 has been defined by the appointment of Examiners in Surgery by the General Medical Council at the bidding of Her Majesty's Privy Council. The Royal Colleges are in a position to give a first-class working qualification in Medicine, Surgery, and Midwifery—a qualification which is registrable under the Medical Acts, which is universally recognised as one of high merit, and the possession of which is attended by no disabilities, such as preventing its possessor from dispensing medicines or keeping open shop for the sale of medicines if he is legally qualified to do so.

The Medical Schools in Ireland are—(1.) The School of Physic in Ireland, Trinity College, Dublin; (2.) The Schools of Surgery of the Royal College of Surgeons in Ireland (including the Carmichael College of Medicine and the Ledwich School of Medicine); (3.) The Catholic University Medical School, Cecilia-street, Dublin; (4.) The School of Medicine, Queen's College, Belfast; (5.) The School of

Medicine, Queen's College, Cork; and (6.) The School of Medicine, Queen's College, Galway.

Facilities for Clinical Instruction in fully-equipped Medico-Chirurgical Hospitals exist in Dublin, Belfast, Cork, and Galway; but, as a rule, the Schools of Medicine in Ireland are not attached to a given hospital, or *vice versâ*, as is the case in London and other large centres of medical education. The student will, however, have little difficulty in selecting a hospital in the wards of which he will receive excellent bedside teaching, and have ample opportunity of making himself familiar with the aspect and treatment of disease.

The detailed information which follows is authentic, being taken directly from the published calendars of the respective licensing bodies.

REGULATIONS PRESCRIBED BY THE GENERAL MEDICAL COUNCIL.

With regard to the course of Study and Examinations which persons desirous of qualifying for the Medical Profession shall go through in order that they may become possessed of the requisite knowledge and skill for the efficient practice of the Profession, the General Medical Council have resolved that the following conditions ought to be enforced without exception on *all* who commence their Medical Studies at any time after Jan. 1, 1892:—

(*a.*) With the exception provided below, the period of Professional Studies, between the date of registration as a medical student and the date of Final Examination for any Diploma which entitles its bearer to be registered under the *Medical Acts*, must be a period of *bonâ fide* study during not less than five years.

(*b.*) In every course of Professional study and Examinations, the following subjects must be contained:—

(I.) Physics, including the Elementary Mechanics of Solids and Fluids, and the rudiments of Heat, Light, and Electricity.
(II.) Chemistry, including the principles of the Science, and the details which bear on the study of Medicine.
(III.) Elementary Biology.
(IV.) Anatomy.
(V.) Physiology.
(VI.) Materia Medica and Pharmacy.
(VII.) Pathology.
(VIII.) Therapeutics.
(IX.) Medicine, including Medical Anatomy and Clinical Medicine.
(X.) Surgery, including Surgical Anatomy and Clinical Surgery.

(XI.) Midwifery, including Diseases peculiar to Women and to New-born Children.
(XII.) Theory and Practice of Vaccination.
(XIII.) Forensic Medicine.
(XIV.) Hygiene.
(XV.) Mental Disease.

The first four of the five years of Medical Study should be passed at a School or Schools of Medicine recognised by any of the Licensing Bodies, provided that the First Year may be passed at a University, or Teaching Institution, recognised by any of the Licensing Bodies, where the subjects of Physics, Chemistry, and Biology are taught.

A student who has, previous to registration, attended a course or courses of study in one or all of the subjects, Physics, Chemistry, or Biology, in any University, School of Medicine, or Teaching Institution recognised by any of the Licensing Bodies, may without further attendance be admitted to examination in these subjects: provided always that such course or courses shall not be held to constitute any part of the five years' course of professional study.

The exception referred to above in (*a*) is as follows:—

Graduates in Arts or Science of any University recognised by the General Medical Council who shall have spent a year in the study of Physics, Chemistry, and Biology, and have passed an Examination in these subjects for the Degrees in question, are held to have completed the first of the five years of Medical Study.

The Examinations in the Elements of Physics, Chemistry, and Biology should be passed before the beginning of the Second Winter Session.

The General Medical Council recommends the Licensing Bodies to require that the fifth year should be devoted to clinical work at one or more public hospitals or dispensaries, British or foreign, recognised by any of the medical authorities mentioned in Schedule (A) of the Medical Act (1858), provided that of this year six months may be passed as a pupil to a registered practitioner possessing such opportunities of imparting medical knowledge as shall be satisfactory to the medical authorities.

I.

University of Dublin.

DEGREES AND DIPLOMAS IN MEDICINE, SURGERY, AND MIDWIFERY.

The Degrees and Diplomas in Medicine, Surgery, and Midwifery granted by the University are as follows:—

The Degrees are:—

1. Bachelor in Medicine.
2. Bachelor in Surgery.
3. Bachelor in Obstetric Science.
4. Doctor in Medicine.
5. Master in Surgery.
6. Master in Obstetric Science.

The Diplomas are:—

1. Diploma in Public Health (formerly Qualification in State Medicine).
2. Diploma in Medicine.
3. Diploma in Surgery.
4. Diploma in Obstetric Science.

REGULATIONS FOR STUDENTS WHO MATRICULATED ON OR BEFORE 25TH NOVEMBER, 1891.

As the number of students who matriculated before November, 1891, is now small, it seems unnecessary to print in full the conditions which must be fulfilled in order that such candidates should qualify for the Degrees in Medicine (M.B.), Surgery (B.Ch.), and Midwifery (B.A.O.). The Registrar of the School of Physic in Ireland will supply all information on application to him.

REGULATIONS FOR STUDENTS WHO MATRICULATED SINCE 1891.

The following conditions must be fulfilled in order to qualify for the Degrees in Medicine (M.B.), Surgery (B.Ch.), and Midwifery (B.A.O.):—

I. The Student must be of B.A. standing, and his name must be for at least five (Academic) years on the Books of the Medical School, reckoned from the date of his Matriculation. He may carry on his Arts Course concurrently with his Medical Course, and he need not have taken his B.A. before presenting himself for his Final Medical Examination, but he cannot have the Medical Degrees conferred without the Arts Degree.

II. The following Courses must have been attended:—

[NOTE.—The Courses marked thus (*) must have been taken out before the Student can present himself for any part of the Final Examination. In addition, the Courses marked thus (†) must have been taken out before he can present himself for Section B; the Courses marked thus (‡) before he can present himself for Section C; and the Courses marked thus (§) before he can present himself for Sections D and E.]

1. LECTURES.

WINTER COURSES.

**Systematic Anatomy.*
**Practical Anatomy (with Dissections), 1st year.*
**Practical Anatomy (with Dissections), 2nd year.*
**Applied Anatomy (with Dissections).*
**Chemistry.*
†Surgery.
**Physiology (two Courses).*
†Practice of Medicine.
‡Midwifery.
†Pathology.

SUMMER COURSES.

**Practical Chemistry.*
**Practical Histology.*
**Botany.*
**Zoology.*
**Materia Medica and Therapeutics.*
Medical Jurisprudence and Hygiene.
§Operative Surgery.

TERM COURSES.

**Physics.*—Michaelmas, Hilary, and Trinity Terms.

§2. HOSPITAL ATTENDANCE.

1. Three Courses of nine months' attendance on the Clinical Lectures of Sir Patrick Dun's or other Metropolitan Hospital recognised by the Board of Trinity College.

Students who shall have diligently attended the practice of a recognised London or Edinburgh Hospital for one year, of a recognised County Infirmary, or of a recognised Colonial Hospital, for two years previous to the commencement of their Metropolitan Medical Studies, may be allowed, on special application to the Board of Trinity College, to count the period so spent as equivalent to one year spent in a recognised Metropolitan Hospital.

§3. PRACTICAL VACCINATION.

One month's instruction in Practical Vaccination to be attended at the Vaccine Department, Local Government Board for Ireland, 45 Upper Sackville-street; at No. 1 East Dispensary, 11 Emerald-street; or, until further notice, at the Grand Canal-street Dispensary.

§4. MENTAL DISEASE.

A Certificate of attendance on a three months' Course of Practical Study of Mental Disease in a recognised Institution.

‡5. PRACTICAL MIDWIFERY.

A Certificate of attendance on a six months' Course of Practical Midwifery with Clinical Lectures, including not less than thirty cases.

§6. OPHTHALMIC SURGERY.

A Certificate of attendance on a three months' Course of Ophthalmic Surgery.

III. The following Examinations must be passed:—

The Previous Medical or Half M.B. Examination.

The Final Examination.

The Previous Medical Examination must be passed in all its parts before any part of the Final can be entered for, except in the case of Candidates for Diplomas.

A.—PREVIOUS MEDICAL EXAMINATION.

This Examination is divided into—

1. Physics and Chemistry.
2. Botany and Zoology.
3. Anatomy and Institutes of Medicine (Practical Histology and Physiology).

The Examination in Anatomy includes examination on the dead subject.

Before presenting himself for examination in any of the subjects the Student must have obtained credit for the corresponding Courses of Lectures and Practical Instruction.

The Final Examination is arranged as follows:—

FIRST PART.

SECTION A.

Applied Anatomy (Medical and Surgical), paper.
Applied Physiology, *vivâ voce.*
Materia Medica and Therapeutics, paper and *vivâ voce.*

SECTION B.

Medical Jurisprudence and Hygiene, paper and *vivâ voce.*
Medicine, paper and *vivâ voce.*
Surgery, paper and *vivâ voce.*
Pathology, paper and *vivâ voce.*

Section A may be passed in any part of the Fourth Year, provided the corresponding Curriculum shall have been completed; Section B not before Trinity Term of the Fourth Year.

Section A must be passed before the Candidate can present himself for Examination in Section B. Both Sections must be passed at least one Term before the Candidate can present himself for Exmination in Sections C, D, or E.

Fee for the *Liceat ad Examinandum* £5, to be paid when the Candidate enters for Section A.

SECOND PART.

SECTION C.

Midwifery, paper and *vivâ voce.*
Gynæcology, paper and *vivâ voce.*
Obstetrical Anatomy, paper.

SECTION D.

Clinical Medicine.
Mental Disease.

SECTION E.

Clinical Surgery.
Operations.
Ophthalmic Surgery.

One Section of the Second Part must be passed in Trinity Term of the Fifth Year, or subsequently. The other two may be passed in any Term of the Fifth Year, provided the corresponding Curriculum shall have been completed. Subject to this provision the Sections may be taken in any order.

Fee for the *Liceat ad Examinandum* £5, to be paid when the Candidate enters for the Section for which he first presents himself.

UNIVERSITY DIPLOMAS.

Candidates for the Diplomas in Medicine, Surgery, and Obstetric Science must be matriculated in Medicine, and must have completed two years in Arts, and five years in Medical Studies.

The dates, regulations, and subjects of Examination are the same as for the Final Examination, except that it is not necessary to attend the Courses of Lectures in Botany and Zoology, nor to pass the Previous Medical Examination in these subjects.

A Diplomate on completing his Course in Arts, and proceeding to the Degree of B.A. may become a Bachelor, by attending the Lectures on Botany and Zoology, passing the Previous Medical Examination in those subjects, and paying the Degree Fees.

The *Liceat* fees are the same as for the Degrees.

Each Candidate who has completed the prescribed Courses of study and passed all the Examinations will be entitled, if a Graduate in Arts, to have conferred on him the Degrees of M.B., B.Ch., B.A.O., on payment to the Senior Proctor of the Degree Fees amounting to £17. A corresponding regulation applies to the Diplomas, the Fees for which are £11. He will also obtain from the Senior Proctor a Diploma, entitling him to be entered on the Register of Medical Practitioners under the Medical Act, 1886.

DIPLOMA IN PUBLIC HEALTH OR STATE MEDICINE.

The Diploma in Public Health is conferred, after examination, by the University of Dublin, upon Candidates fulfilling the following conditions:—

1. The Candidate must be a Doctor in Medicine, or Graduate in Medicine and Surgery, of Dublin, Oxford, or Cambridge.

2. The name of the Candidate must have been on the Medical Register at least twelve months before the Examination.

3. The Candidate must have completed, subsequent to Registration, six months in a Laboratory, recognised by the Provost and Senior Fellows, in practical instruction in Chemistry and Bacteriology applied to Public Health, and also have attended, practically, outdoor Sanitary work for six months, under an approved Officer of Health.[a]

The Examination for 1900 will begin on December 10th.

II.

Royal University of Ireland.

COURSES FOR DEGREES IN MEDICINE, SURGERY, AND OBSTETRICS.

General Regulations.

The Course for these Degrees shall be of at least five Medical years' duration; but Graduates in Arts or Science who shall have spent a year in the study of Physics, Chemistry, and Biology, and have passed an Examination in these subjects for the Degrees in question, shall be held to have completed the first of the five years of Medical Study.

Students who commenced their Medical Studies after Jan. 1, 1892, must furnish evidence of having been registered by the Medical Council, as Students in Medicine, for at least 57 months, before being admitted to the M.B., B.Ch., and B.A.O. Degrees Examination.

No one can be admitted to a Degree in Medicine who is not twenty-one years of age.

All Candidates for these Degrees, in addition to attending the lectures and complying with the other conditions to be from time to time prescribed, must pass the following Examinations:—

The Matriculation Examination.
The First University Examination.
The First Examination in Medicine.
The Second Examination in Medicine.
The Third Examination in Medicine.
The Examination for the M.B., B.Ch., B.A.O. Degrees.

[a] This condition does not apply to Practitioners registered, or entitled to be registered, on or before 1st January, 1890.

The Course of Medical Studies shall be divided into five Periods of one Medical Year each.

Candidates shall furnish proper Certificates of attendance at the several Courses of Medical Instruction prescribed for the different years of the curriculum.

No such certificate will be received unless it attests a *bonâ fide* attendance at three-fourths of the whole Course. *Students are reminded that certificates of attendance at Night Lectures will not be accepted.*

No Certificates of instruction in any of the Courses of Medical Studies, in connection with either Lectures or Hospitals, can be received, unless issued by an Institution which has been formally recognised by the Senate.

The prescribed courses in Natural Philosophy, Chemistry, Biology, Anatomy and Physiology must be attended in Institutions provided with the appliances required for the performance by the Students of proper Experimental Courses and Practical Work in those subjects.

Where Certificates in a special department (Fever, Mental Diseases, Ophthalmology, &c.) are presented, they must be signed by the Physician or Surgeon in charge of such department.

THE EXAMINATION FOR THE M.B., B.Ch., B.A.O. DEGREES.

Candidates may present themselves for this Examination after an interval of such period, not being less than one Medical Year from the time of passing the Third Examination in Medicine, as the Senate may from time to time prescribe, provided they shall have completed the entire Medical Curriculum.

Printed forms of application for admission to this Examination may be had from "the Secretaries, the Royal University of Ireland, Dublin."

This Examination consists of three parts:—

(*a.*) Medicine, Theoretical and Clinical, including Therapeutics, Mental Diseases, Medical Jurisprudence, Sanitary Science, and Medical Pathology.

(*b.*) Surgery, Theoretical, Clinical, and Operative, including the use of Instruments and appliances; Surgical Anatomy; Ophthalmology and Otology,[a] Surgical Pathology.

(*c.*) Midwifery and Diseases of Women and Children.

[a] Candidates at this Examination must exhibit reasonable proficiency in the use of the Ophthalmoscope and Laryngoscope.

All Candidates must enter for and go through the entire Examination, but a Candidate may be adjudged to have passed in any of the foregoing parts in which he satisfies the Examiners.

Upon completing satisfactorily his Examination in all three divisions, the Candidate will receive, in addition to the parchment Diplomas recording his admission to the M.B., B.Ch., B.A.O. Degrees, a Certificate of having passed a Qualifying Examination in the subjects of Medicine, Surgery, and Midwifery.

The fee for this Certificate is *Ten Pounds*, which must be paid before admission to these Degrees.

DIPLOMA IN SANITARY SCIENCE.

This Diploma is conferred only on Graduates in Medicine of the University.

Candidates may present themselves for this Examination after an interval of twelve months from the time of obtaining the M.B., B.Ch., B.A.O. Degrees.

Printed forms of application for admission to this Examination may be had from "the Secretaries, the Royal University of Ireland, Dublin."

Every Candidate must, when entering for the Examination, produce:—[a]

(*a.*) A Certificate of having, *after obtaining the M.B., B.Ch., B.A.O. Degrees*, attended during a period of six months Practical Instruction in a Laboratory approved by the University. The nature of this course is fully indicated by the detailed Syllabus of the Examinations in Physics, Climatology, Chemistry, Microscopy, Bacteriology, &c.

(*b.*) A Certificate of having, *after obtaining the M.B., B.Ch., B.A.O. Degrees*, for six months practically studied the duties of out-door Sanitary work under the Medical Officer of Health of a County or large Urban District.

The Subjects of this Examination are:—

Physics;
Climatology;
Chemistry;
Microscopy;
Bacteriology;
Geology;
Sanitary Engineering;
Hygiene, Sanitary Law, and Vital Statistics.

[a] These rules (*a*), (*b*), shall not apply to Medical Practitioners registered or entitled to be registered on or before Jan. 1, 1890.

The Candidate must draw up reports on the Sanitary condition of Dwelling Houses, or other buildings selected for the purpose.

N.B.—Proficiency in practical work and an adequate acquaintance with the instruments and methods of research which may be employed for Hygienic investigations are indispensable conditions of passing the Examination.

DIPLOMA IN MENTAL DISEASES.

This Diploma is conferred only on Graduates in Medicine of the University.

Printed forms of application for admission to this Examination may be had from "the Secretaries, the Royal University of Ireland, Dublin."

The subjects for this Examination are those prescribed for the Hutchinson Stewart Scholarship for proficiency in the treatment of Mental Disease.

Belfast.

Queen's College.

Clinical instruction is given at the Belfast Royal Hospital. The Ulster Hospital for Diseases of Women and Children, the Belfast Maternity Hospital, the Belfast Ophthalmic Hospital, the Ulster Eye, Ear, and Throat Hospital, the Belfast District Lunatic Asylum, and the Belfast Hospital for Sick Children are open to students.

A pamphlet containing full information can be had free on application to the Registrar, Queen's College, Belfast.

Cork.

Queen's College.

Clinical instruction is given at the North and South Infirmaries (each 100 beds). Students also can attend the Mercy Hospital (60 beds), the Cork Union Hospital, the County and City of Cork Lying-in-Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglinton Lunatic Asylum. The session at Queen's College extends from October to April inclusive (twenty-seven weeks), but the hospitals are open to students in May, June, and July also, and arrangements have been made for the delivery of some of the three months' Courses of lectures during the months of April, May and June.

Galway.

Queen's College.

Clinical instruction is given at the Galway County Infirmary and the Galway Town Hospital.

Prizes.—Attached are eight scholarships of the value of £25 each. The Council may award Exhibitions to matriculated students at the examinations for junior scholarship. All scholarships and exhibitions of the second, third, and fourth years may be competed for by students who have attained the requisite standing in any medical school recognised by the College Council, and have passed the Matriculation Examination in the College, or in the Royal University of Ireland.

III.

Royal Colleges of Physicians and Surgeons, Ireland.

OUTLINE MEDICAL COURSE APPLICABLE TO CANDIDATES FOR THE LICENCES OF THE ROYAL COLLEGES.

These Regulations apply to Candidates commencing Medical Study after 1st January, 1892.

1. Enter for and pass a Preliminary Examination recognised by the General Medical Council.

2. Register as a Medical Student on a form obtainable at the Royal College of Surgeons from the Registrar.

3. Enter for and attend Courses for the First Professional Examination.

Winter six months	Dissections	...	£5 5
	Chemistry	...	3 3
	Physics	...	3 3
Summer three months	Practical Chemistry		5 5
	Pharmacy	...	3 3
	Biology	...	3 3
			£23 2

4. Enter for and pass the First Professional Examination.

Fee, £15 15s. (Matriculated Pupils, R.C.S., £10 10s. See note, page 320).

Subjects of Examination.

1. (*a*) Chemistry; (*b*) Physics.
2. Practical Pharmacy.
3. Elementary Biology.
4. Anatomy, viz.—Bones, with attachments of muscles and ligaments —Joints.

Candidates may take this Examination as a whole at one time, or in four parts, but no portion earlier than the end of the first Winter Session.

5. Enter for and attend Courses for the Second Professional Examination.	Winter six months	Hospital (9 months)	£12 12
		Anatomy ...	3 3
		Dissections ...	5 5
		Physiology ...	3 3
	Summer three months	Histology ...	5 5
		Materia Medica ...	3 3
			£32 11

Materia Medica may be deferred to the Third Year.

6. Enter for and pass the Second Professional Examination.

Subjects of Examination.[a]

Fee, £10 10s.

Part I.—*a.* Anatomy. *b.* Histology. *c.* Physiology—as found in Foster and Shore's "Physiology for Beginners," omitting chapters 5, 6, 7, and 8, and 18, 19, 20, and 21.

Part II.—*a.* Advanced Physiology (Text-book, Starling's "Elements of Human Physiology." *b.* Materia Medica.

The full fee of £10 10s. must be paid when entering for Part I. No fee is payable for Part II., except in case of rejection. No subject can be deferred; but candidates who pass in certain subjects may be allowed credit therefor.

7. Enter for and attend Courses for the Third Professional Examination.	Winter six months	Hospital (18 months[b])	£25 4
		Dissections ...	5 5
		Medicine ...	3 3
		Surgery ...	3 3
		Midwifery ...	3 3
		Pathology ...	3 3
	Summer three months	Operative Surgery ...	5 5
		Public Health and Forensic Medicine	3 3
			£51 9

8. Enter for and pass the Third Professional Examination.[c]

Subjects of Examination.

Fee, £9 9s.

1. Medicine.
2. Surgery.
3. Pathology.
4. Therapeutics.
5. Public Health and Forensic Medicine.

[a] Candidates registered previous to October 1st, 1898, must pass in Anatomy and Histology, but may defer Physiology and Materia Medica.

[b] In addition to that attended in the Second Year, with evidence of attendance in Fever Wards.

[c] This examination cannot be taken earlier than the end of the Fourth Winter Session.

A Candidate must present himself, in the first instance at least, in Medicine, Surgery, Therapeutics, and Pathology. Should he pass in any of these he may, at the discretion of the Examiners, get credit therefor. Public Health and Forensic Medicine may be postponed.

9. Enter for and attend Courses for the Final Examination.

Maternity Hospital,[a] £6 6s., £8 8s., or ...	£10	10
Ophthalmic Hospital ...	3	3
Vaccination [a] ...	1	1
Clinical Instruction in Mental Diseases [a] ...	3	3
	£17	17

10. Enter for and pass the Final Examination.

Fee, £6 6s.

Subjects of Examination.

1. Medicine, including Medical Anatomy and Mental Diseases.
2. Surgery, including Operative Surgery, Surgical Anatomy, Ophthalmic and Aural Surgery.
3. Midwifery, including Diseases of Women and New-born Children, and the Theory and Practice of Vaccination.

Every Candidate must produce evidence that he has acted as Medical Clinical Clerk for three months, and as Surgical Dresser for three months.

Candidates are not admissible to the Final Examination earlier than the end of the Fifth Year of Medical Study.

Candidates may enter for and pass separately in Medicine, Surgery, and Midwifery.

Foreign and Colonial Candidates who have taken out a portion of the Course, or have passed recognised Examinations in Australia and elsewhere, have been accorded certain exemptions, which may be learned on application to the Secretary of the Committee of Management.

We are indebted to *The Lancet*, Sept. 1, 1900, for the following Table, which we have revised and corrected:—

[a] May be taken in the Fourth Year.

Tabular List of the Classes, Lecturers, and Fees at t

Lectures, &c.	Dublin University	Dublin. R. C. of Surgeons		Dublin, Catholic University	F
	Lecturers	Lecturers	Fees	Lecturers	
Histology and Physiology	..	Prof. Scott	Course, £3 3s., in all Classes, ex. Descr. Anat. (£5 5s.), Oper. Surg. (£5 5s.), Pract. Chem. (£5 5s.), Pract. Histology (£5 5s.)	Dr. Coppinger and Dr. Coffey †	
Anatomy, Descriptive and Surgical	Dr. Cunningham	Prof. Fraser		Dr. Birmingham	
Practical Anatomy and Dissections	Dr. Cunningham	Prof. Fraser		Dr. Birmingham,† assisted by Drs. Fagan and Keating	
Chemistry	Dr. Reynolds	Profs. Sir C. Cameron and Lapper		Mr. H. Ryan, assisted by Mr. Elrell	
Practical Chemistry	Dr. Reynolds				
Materia Medica and Pharmacy	Dr. W. G. Smith	Prof. Sir G. F. Duffey		Dr. Quinlan*	
Botany and Zoology	Dr. Wright Prof. Mackintosh	Prof. Cosgrave §		Dr. Sigerson † and Dr. Blaney	
Institutes of Medicine and Pathology	Dr. Purser	Prof. A. H. White		Dr. McWeeney	
Natural Philosophy	..	..		Prof. Stewart †	
Hospital Practice	Sir P. Dun's or other Dublin Hospital	The various Dublin Hospitals		The various Dublin Hospitals	
Clinical Lectures	..	..		..	
Surgery	Dr. E. H. Bennett	Prof. W. Stoker		Mr. P. J. Hayes and Mr. McArdle	
Operative Surgery	Dr. E. H. Bennett				
Midwifery, &c.	Dr. A. V. Macan	Prof F. W. Kidd		Dr. A. J. Smith	
Medicine	Dr. Finny	Prof. Sir J. W. Moore		Sir C. J. Nixon	
Medical Jurisprudence	Dr Bewley	Prof. Auchinleck and Sir C. A. Cameron		Mr. Roche	
Comparative Anatomy	Prof. Mackintosh	..		Dr. Sigerson and Dr. Blaney †	
Practical Pharmacy	Dr. W. G. Smith	Prof. Sir G. F. Duffey		Dr. Quinlan	
Logic	The College Tutors	..		..	
Physics	Prof. FitzGerald	Prof. Lapper		[*Medical Registrar:* Dr. Birmingham] Prof. Stewart†	
Pathology	Dr O Sullivan	Prof. Arthur H. White		Dr. McWeeney	
Ophthalmology and Otology	Royal Victoria Hospital	Profs. Jacob, Fitzgerald, and Story		Dr. Werner	
Hygiene	Dr. Bewley	Sir Charles Cameron		Mr. Roche	
Dentistry	..	Prof. Stack		..	

£3 3s. each Course, except Dissections, Pract. Chem., Oper. Surg., and Histology

* In Summer.

† In Winter and in Summer

edical Schools of Ireland for the Session 1900–1901.

Belfast Queen's College		Cork Queen's College		Galway Queen's College	
Lecturers	Fees First Course	Lecturers	Fees First Course	Lecturers	Fees First Course
	£ s.		£ s.		£ s.
Dr. W. H. Thompson	3 0	Dr. J. J. Charles	3 0	Dr. Pye	3 0
Dr. J. Symington	2 0		..	Dr. Pye	2 0
Dr. Symington and Demonstrators	3 0	Dr. Charles and Demonstrators	3 0	Dr. Pye and Demonstrators	3 0
Dr. E. A. Letts	2 0	Dr. Augustus E. Dixon	2 0	Dr. Senier	2 0
Dr. E. A. Letts †	3 0	Dr. Augustus E. Dixon	3 0	Dr. Senier	3 0
Dr. W. Whitla	2 0	Dr. John Dundon	2 0	Dr. Colahan	2 0
Dr. R. O. Cunningham‡	2 0	Professor Hartog	2 0 each	Dr. R. J. Anderson	2 0
..	..	..	..	Dr. Lynham	2 0
Prof. W. B. Morton	2 0	Prof. William Bergin	2 0	Professor Anderson	2 0
elfast Royal and other Hospitals	..	North and South Infirmaries	..	Galway Hospital, Galway Union Hospital, and Galway Fever Hospital	Sess. 5 0
..	..	..	..	Drs. Kinkead, Pye, Brereton, Colahan, and Lynham	..
Dr. Sinclair	2 0	Dr. C. Y. Pearson	2 0	Dr. W. Brereton	2 0
Dr. Sinclair*	2 0	Dr. C. Y. Pearson	2 0	..	..
Dr. J. W. Byers	2 0	Dr. Corby	2 0	Dr. Kinkead	2 0
Dr. Lindsay	2 0	Dr W. E. Ashley Cummins	2 0	Dr. Lynham	2 0
Dr. Hodges	2 0	Dr. C. Yelverton Pearson	2 0	Dr. Senier / Dr. Kinkead	2 0
. J. Lorrain Smith* and Dr. John Tennant	..	..	..	[*Modern Languages:* Professor Steinberger]	..
Dr. V. G. L Fielden	2 0	Dr. John Dundon	..	Dr. Colahan	2 0
Professor J. Park	2 0	..	1 0	Professor Trench	2 0
..	..	..	..	The President	2 0
Dr. J. Lorrain Smith	2 0	Dr. Moore	2 0	Dr. M'Kelvey	2 0
Dr. W. A. M'Keown	2 0	Dr. Sandford	..	..	..
Dr. E. A. Letts and Dr. Henry Whitaker	2 0	Dr. Donovan	..	..	..
..	..	..	..	..	..

‡ Zoology in Winter; Botany in Summer.

§ Including Biology.

MARKING.

(*a*) A numerical system of marks, ranging from 0 to 10, is now in use.

(*b.*) A uniform standard of 50 per cent. is the passing mark in all subjects, and in all examinations.

(*c.*) In deciding as to whether a candidate has passed in any subject or not, the marks in all the divisions of the subject—written, oral, and practical—are considered together; provided, however, that bad answering in the clinical portion shall not be compensated for by excellence in the other portions of the subject.

EQUIVALENT EXAMINATIONS.

Candidates are referred for detailed information to the Official Regulations published by the Colleges.

MATRICULATION AS PUPIL OF THE ROYAL COLLEGE OF SURGEONS.

All persons proceeding to the study of Medicine may, if approved by the Council, become matriculated pupils of the College on payment of five guineas, and having done so, will enjoy the following privileges:—

1. They will, if matriculated before the preliminary examination, be admitted on payment of £1 1s. (half fee).
2. They will be permitted to study in the Library and Museums of the College.
3. Their fee for the First Professional Examination will be reduced by £5 5s.

DATES OF CONJOINT EXAMINATIONS.

Preliminary - - -	March and September.
Professional - - -	April, July, and October.
Supplemental Final - -	January.

REGULATIONS FOR CANDIDATES FOR THE CONJOINT DIPLOMA IN STATE MEDICINE.

The following regulations are compulsory on all Candidates beginning the study of Sanitary Science after January 1st, 1894; the date of commencement of study being fixed by the date of the certificates.

Stated Examinations for the Diploma in State Medicine com-

mence on the first Tuesday of the months of February, May, and November, and occupy four days.

A special Examination for the Diploma can be obtained—except in the months of August and September—on payment of £5 5s., in addition to the ordinary Fees mentioned below, and on giving notice at least one fortnight before the date of the proposed Examination.

Every Candidate for the Diploma in State Medicine must be a Registered Medical Practitioner. He must return his name to the Secretary of the Committee of Management under the Conjoint Scheme, Royal College of Physicians, Dublin, three weeks before the Examination, and lodge with him a Testimonial of Character from a Fellow of either of the Colleges, or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh, together with certificates of study as hereinafter set forth.

Candidates registered as Medical Practitioners or entitled to be so registered after 1st January, 1890, must comply with certain Resolutions passed by the General Medical Council on December 1st, 1893, in regard to Diplomas in State Medicine.

*** The *Rules* as to study shall not apply to Medical Practitioners registered, or entitled to be registered, on or before January 1st, 1890.

*** The Executive Committee [of the General Medical Council] has power, in special cases, to admit exceptions to the Rules for the Registration of Diplomas in Sanitary Science, and report the same to the General Council.

The Fee for the Examination is Ten Guineas, which must be lodged in the Ulster Bank, Dublin, to the credit of the Committee of Management, at least two weeks before the date fixed for the Examination. Fees are not returned to any Candidate who withdraws from, or is rejected at, any Examination. The Fee for re-examination is Five Guineas.

The Examination for the Diploma in State Medicine comprises the following subjects:—State Medicine and Hygiene, Chemistry, Meteorology, and Climatology, Engineering, Morbid Anatomy, Vital Statistics, Medical Jurisprudence, Law.

IV.

Apothecaries' Hall in Ireland.

The First, Second, and Third Professional Examinations are held four times a year—viz., commencing the third Monday in January, April, July, and October.

The final Examinations are held in January and July.

The Fees payable for each Examination are as follows:—

First Professional	-	-	£5 5 0
Second „	-	-	5 5 0
Third „	-	-	5 5 0
Final Examination	-	-	6 6 0

Ladies who comply with the regulations will be admitted to these examinations.

Candidates may be admitted to a Special Examination, under special circumstances, which must be laid before the Examination Committee. If the Candidate's application be granted, an extra fee of Ten Guineas over and above the full fee is required.

Candidates already on the Register will receive the Diploma of the Hall, on passing an Examination in the subjects which are not covered by their previous qualifications, and on paying a fee of Ten Guineas. If Medicine or Surgery is required, Two Guineas extra will be charged.

COURSE OF STUDY FOR THE DIPLOMA.

Candidates who desire to obtain the Letters Testimonial of the Apothecaries' Hall in Ireland must, before proceeding to the Final Examination, produce evidence of having been registered as a Medical Student for 57 months; also of having attended Courses of Instruction as follows:—

Winter Courses of Six Months.

One Course each of the following:—

Anatomy (Lecture).
Chemistry—Theoretical.
Midwifery.
Practice of Medicine.
Physiology, or Institutes of Medicine.
Surgery.
Dissections, two courses of six months each.

Courses of Three Months.

One Course of each of the following:—

Materia Medica.
Medical Jurisprudence.
Chemistry—Practical.
Practical Physiology and Histology.
Operative Surgery.
Physics.

Clinical Ophthalmology.
Biology.
Clinical Instruction in Mental Disease.
Pathology.
Vaccination.

Medico-Chirurgical Hospital, twenty-seven months, to be distributed at the Student's own discretion over the last four years of his study. The Candidate may substitute for nine months in this Hospital Attendance six months as a Resident Pupil. He will be required to present a certificate of having taken notes of at least six Medical and six Surgical cases recorded under the supervision, respectively, of a Physician and Surgeon of his Hospital.

Three months' study of Fever—which may be included in his twenty-seven months' Hospital Attendance—in a Hospital containing Fever Wards, and having taken notes of five cases of Fever—viz., either Typhus, Typhoid, Scarlet Fever, Small-pox or Measles.

Six months' Practical Midwifery and Diseases of Women during the Winter or Summer of the third or the fourth year, at a recognised Lying-in Hospital, or Maternity.

Three months' Practical Pharmacy, in a recognised Clinical Hospital or a recognised School of Pharmacy, or a year in the Compounding Department of a Licentiate Apothecary or a Pharmaceutical Chemist.

Each Candidate, before receiving his Diploma, must produce evidence that he has attained the age of twenty-one years.

EXAMINATIONS FOR THE DIPLOMA.

All information relative to the Examinations may be obtained from the Registrar of the Apothecaries' Hall, 40 Mary-street, Dublin.

Dental Education and Examinations in Ireland.[a]

The Royal College of Surgeons in Ireland grants Diplomas in Dental Surgery under conditions of which the following is a synopsis:—

The Candidate must be twenty-one years of age.

The Candidate must have passed three Examinations.

1. Preliminary (identical with the Medical Preliminary).
2. Primary Dental. Fee, £10 10s. (This Examination is much the same as the Second Conjoint Professional.)

[a] Fuller particulars can be obtained by application to the Registrar, Royal College of Surgeons, St. Stephen's-green, Dublin.

3. Final Dental Examination. Fee, £10 10s. Candidates are examined in Dental Surgery and Pathology, and in Mechanical Dentistry and Practical Metallurgy.

Candidates are required to do gold fillings, and construct mechanical work in the presence of the Examiners.

The Certificates required may be divided into General and Special.

1. The General Certificates required are about the same as those required by the Medical Student for the Second Conjoint Professional Examination.

The Special Certificates may be subdivided into—

1. Dental Hospital. 2. Practical Mechanical Dentistry.

1. Dental Hospital. Two years' attendance, with Lectures in Dental Surgery and Pathology and in Mechanical Dentistry and Orthodonty. Fee, £28 7s.

2. Practical Mechanical Dentistry. Three years' instruction from a Registered Dentist. The fee for this is variable, but may be set down at from £50 to £150.

Large reductions in the Special Certificates required are made in the cases of qualified Medical Practitioners.

INDIAN MEDICAL SERVICE.

The Military Secretary, India Office, has forwarded for publication the following list of the candidates for Her Majesty's Indian Medical Service who were successful at the Competitive Examination held in London on the 17th of August, 1900, and following days:—

	Marks.		Marks.
1 Melville, E. W.	3,476	8 Leonard, W. H.	2,786
2 Wells, N. S	3,033	9 Swan, J. E. G.	2,737
3 McCarrison, R.	3,005	10 Dalziel, R. McL.	2,548
4 Masson, J.	3,000	11 Young, A. W. C.	2,500
5 Anderson, W. M.	2,991	12 Robb, J. J.	2,430
6 Pringle, W. D.	2,985	13 Ruyzak, S. A.	2,425
7 Stanley, E. H. B.	2,870	14 Foster, R. B. B.	2,385

DIAGNOSIS OF APPENDICITIS.

At a meeting of the Société de Chirurgie M. Le Dentu relates an account of an examination of a patient who had all the symptoms of appendicitis well marked. He performed a laparotomy, and came down on a perfectly healthy appendix. He found a peritoneal cyst, which arose from a slight ulceration of the ascending colon.—*Gazette des Hôpitaux.*

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir J. W. Moore, B.A., M.D. Univ. Dubl.;
P.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four weeks ending Saturday, September 8, 1900.

IRELAND.

Twenty-three Town Districts.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending September 8 in the Dublin registration area and the twenty-two principal provincial urban districts of Ireland was 19·2 per 1,000 of their aggregate population, which, for the purposes of these returns, is estimated at 1,062,188. The deaths registered in each of the past four weeks, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Aug. 18	Aug. 25	Sept. 1	Sept. 8			Aug. 18	Aug. 25	Sept. 1	Sept. 8	
23 Town Districts	20·2	20·5	21·9	19·2	20·5	Limerick -	7·0	16·8	22·5	18·2	16·1
Armagh -	28·5	23·5	28·5	0·0	21·4	Lisburn -	29·8	21·3	4·3	12·8	17·1
Ballymena	16·9	22·5	11·3	28·2	19·7	Londonderry	28·3	18·8	22·0	22·0	22·8
Belfast -	21·6	18·0	19·3	19·8	19·7	Lurgan -	27·4	18·2	18·2	27·4	22·8
Carrickfergus	5·8	5·8	29·2	5·8	11·7	Newry -	20·1	8·1	24·1	12·1	16·1
Clonmel -	19·5	24·3	19·5	9·7	18·3	Newtownards	17·0	0·0	0·0	0·0	4·3
Cork -	13·1	13·1	13·8	11·1	12·8	Portadown -	18·6	18·6	18·6	18·6	18·6
Drogheda -	11·4	3·8	45·6	7·6	17·1	Queenstown	11·5	5·7	11·5	0·0	7·2
Dublin - (Reg. Area)	21·2	27·0	26·7	22·2	24·3	Sligo -	10·2	10·2	5·1	25·4	12·7
Dundalk -	8·4	12·6	20·9	8·4	12·6	Tralee -	16·8	33·6	50·4	28·0	32·2
Galway -	11·3	64·2	37·8	18·9	33·0	Waterford -	31·8	13·9	13·9	27·9	21·9
Kilkenny -	14·2	9·4	23·6	18·9	16·5	Wexford -	36·1	13·5	18·1	18·1	21·4

The deaths from the principal zymotic diseases registered in the 23 districts during the week were equal to an annual rate of 3·1 per 1,000—the rates varying from 0·0 in sixteen of the districts to 11·3 in Ballymena. The 5 deaths from all causes registered in that district comprise one from whooping-cough and one from diarrhœa. Among the 136 deaths from all causes registered in Belfast are 2 from scarlatina, 2 from whooping-cough, 6 from enteric fever, and 19 from diarrhœa. The 16 deaths in Cork comprise 2 from diarrhœa.

DUBLIN REGISTRATION AREA.

In the Dublin Registration Area the births registered during the week amounted to 225—123 boys and 102 girls; and the deaths to 154—73 males and 81 females.

Deaths.

The deaths, which are 16 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 23·0 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the area, the rate was 22·2 per 1,000. During the 36 weeks ending with Saturday, September 8, the death-rate averaged 30·1, and was 2·5 over the mean rate for the corresponding portions of the 10 years 1890–1899.

Twenty-eight deaths from zymotic diseases were registered, being 23 under the number registered in the preceding week, and 7 under the number for the corresponding week of the last 10 years. They consist of 5 from whooping-cough, 1 from enteric fever, 20 from diarrhœa, 1 from choleraic diarrhœa, and 1 from beri-beri. Twenty of the 21 deaths from diarrhœal diseases were of children under 5 years of age, of whom 16 were infants under one year old.

Tuberculosis caused 38 deaths—comprising 22 from phthisis, 7 from tabes mesenterica, 1 from tubercular meningitis, and 8 from scrofula.

Diseases of the respiratory system caused 19 deaths, being 13 over the number recorded during the preceding week, and equal to the average for the corresponding week of the last 10 years. They consist of 13 from bronchitis, 4 from pneumonia or inflammation of the lungs, one from croup, and one from pleurisy.

The deaths of 7 children under 5 years of age (including 5 infants under one year old) were ascribed to convulsions.

Two deaths were caused by apoplexy, one by epilepsy, 5 by other

diseases of the brain and nervous system (exclusive of convulsions), 14 by diseases of the circulatory system, and 1 by cancer.

Five accidental deaths were registered.

STATE OF INFECTIOUS DISEASE IN DUBLIN.

(1.) Cases of Infectious Diseases Notified to the Public Health Committee of the Corporation.

Sir Charles A. Cameron, C.B., Medical Superintendent Officer of Health for the City of Dublin, has furnished the following information regarding the number of cases of Infectious Diseases in the City of Dublin, notified under the "Infectious Disease (Notification) Act, 1889":—

Week ending	18th August	...	...	47 cases.
„	25th August	...	...	68 cases.
„	1st September	...	...	59 cases.
„	8th September	...	...	72 cases.

Of the 72 cases notified, 7 were erysipelas, 49 enteric fever, 6 scarlatina, 5 measles, one German measles, meningitis nil, 1 diphtheria, and 3 continued fever.

(2.) Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended September 8, 1900, 10 cases of scarlatina were admitted to hospital, 8 were discharged, and 45 remained under treatment at the close of the week. This number is exclusive of 10 patients under treatment at Beneavin, the Convalescent Home of Cork-street Fever Hospital.

Twenty-five cases of enteric fever were admitted to hospital, 4 were discharged, and 94 remained under treatment at the close of the week, being 21 over the number in hospital on that day week.

Three cases of diphtheria were admitted to hospital, 5 were discharged, and 14 remained under treatment at the close of the week.

The hospital admissions for the week also included one case of measles; 6 measles patients were discharged, and 3 cases of the disease remained under treatment on Saturday.

ENGLAND AND SCOTLAND.

The mortality in thirty-three large English towns, including London (in which the rate was 18·0), was equal to an average annual death-rate of 19·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 17·5 per 1,000, the rate for Glasgow being 17·9, and for Edinburgh 15·1.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of August, 1900.

Mean Height of Barometer, - - -	29·960 inches
Maximal Height of Barometer (13th, at 9 a.m.),	30·425 „
Minimal Height of Barometer (6th, at 2 p.m.),	29·088 „
Mean Dry-bulb Temperature, - -	58·1°.
Mean Wet-bulb Temperature, - -	55·7°.
Mean Dew-point Temperature, - -	53·5°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·411 inch.
Mean Humidity, - - - -	85·5 per cent.
Highest Temperature in Shade (15th), - -	75·0°.
Lowest Temperature in Shade (4th), - -	48·1°.
Lowest Temperature on Grass (Radiation) (29th),	44·4°.
Mean Amount of Cloud, - - -	59·5 per cent.
Rainfall (on 17 days), - - -	5·871 inches.
Greatest Daily Rainfall (on 2nd), - -	2·135 inches.
General Directions of Wind, - - -	W., N.W. N., N.E.

Remarks.

August, 1900, was very changeable. Winds from polar quarters of the compass largely predominated. There were frequent heavy downpours of rain, causing a record rainfall of 5·871 inches for the month. But providentially for the saving of the harvest, two dry periods occurred—from the 11th to the 17th and from the 25th to the 30th, inclusive. The mean temperature of the month was slightly in defect, but this was due to cloudy days rather than to clear, cold nights. On the 2nd a rainfall of 2·135 inches took place. It was the sixth occasion only since 1865—that is, in 36 years—upon which two inches have been measured in Dublin at 9 a.m. as the product of the previous 24 hours' precipitation. The previous excessive falls were—August 13, 1874, 2·482 inches ; October 27, 1880, 2·736 inches ; May 28, 1892, 2·056 inches ; July 24, 1896, 2·020 inches, and August 5, 1899, 2·227 inches. The "splashes" of rain on the 5th of the month (·502 inch), the 6th (·937 inch), the 9th (·513 inch), and the 21st (·922 inch), contributed 49 per cent. of the entire precipitation, which was 5·871 inches. The measurement on the 2nd alone equalled 36 per cent. of the total fall. The amount of cloud was 59·5 per cent. ; at 9 a.m. it was 64·5 per cent., at 9 p.m. it was 54·5 per cent.

In Dublin the arithmetical mean temperature (59·5°) was slightly below the average (59·7°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 58·1°. In the thirty-five years ending with 1899, August was coldest in 1881 (M. T.=57·0°), and warmest in 1899 (M. T.=63·4°).

The mean height of the barometer was 29·960 inches, or 0·063 inch above the corrected average value for August—namely, 29·897 inches. The mercury marked 30·425 inches at 9 a.m. of the 13th, and fell to 29·088 inches at 2 p.m. of the 6th. The observed range of atmospheric pressure was, therefore, 1·337 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 58·1°. It was 4·1° below the value for July, 1900. Using the formula, *Mean Temp.* = *Min.* + (*Max.*—*min.* × ·47), the mean temperature was 59·1°, or 0·2° below the average mean temperature for August, calculated in the same way, in the twenty-five years, 1865–89, inclusive (59·3°). The arithmetical mean of the maximal and minimal readings was 59·5°, compared with a twenty-five years' average of 59·7°. On the 15th the thermometer in the screen rose to 75·0°—wind, N.E.; on the 4th the temperature fell to 48·1°—wind, N.N.E. The minimum on the grass was 44·4° on the 29th.

The rainfall was 5·871 inches, on 17 days—a record fall in Dublin for August. The average rainfall for August in the twenty-five years, 1865–89, inclusive, was 2·825 inches, and the average number of rainy days was 15·5. The rainfall, therefore, was more than double the average, while the rainy days were also in excess. In 1874 the rainfall in August was very large—4·946 inches on 18 days; in 1868, also, 4·745 inches fell on, however, only 13 days; but the heaviest downpour in August before the present year occurred in 1889, when 5·747 inches were registered on 22 days. On the other hand, in 1884, only ·777 inch was measured on 8 days.

High winds were noted on 7 days, but attained the force of a gale only on the 3rd and 31st. Thunder occurred on the 5th and 22nd. Lightning was seen on the 19th. Thunderstorms prevailed on the 2nd and 21st. Temperature reached 70° in the screen on only 6 days compared with 18 days in August, 1899. A solar halo was seen on the 11th. The atmosphere was foggy on the 15th and 16th.

The rainfall in Dublin during the eight months ending August 31st amounted to 23·480 inches on 146 days, compared with 18·200 inches on 117 days in 1899, 16·516 inches on 124 days in 1898,

19·388 inches on 149 days in 1897, 14·464 inches on 120 days in 1896, 9·455 inches on 96 days during the same period in 1887, and a twenty-five years' average of 17·558 inches on 128·1 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in August was 5·995 inches on 16 days, compared with 2·640 inches on 11 days in 1899, 3·185 inches on 18 days in 1898, 6·195 inches on 27 days in 1897, and 1·245 inches on 14 days in 1896. Of this quantity 1·670 inches fell on the 2nd, and 1·200 inches on the 6th. The total fall since January 1 amounts to 29·326 inches on 136 days, compared with 25·630 inches on 120 days in 1899, 17·830 inches on 112 days in 1898, 25·945 inches on 143 days in 1897, 14·327 inches on 91 days in 1896, 22·685 inches on 107 days in 1895, 25·206 inches on 131 days in 1894, and 16·341 inches on 106 days in 1893.

At the National Hospital, Newcastle, Co. Wicklow, the rainfall in August was 3·988 inches on 12 days, compared with 1·877 inches on 13 days in 1899, 3·803 inches on 16 days in 1898, and 4·526 inches on 20 days in 1897. The heaviest falls were 1·130 inches on the 6th, ·755 inch on the 9th, and ·698 inch on the 5th. Since January 1, 1900, the rainfall at this Second Order Station has been 24·144 inches on 130 days, compared with 23·748 inches on 117 days in the first 8 months of 1899, and 20·101 inches on 110 days in the first 8 months of 1898. The maximal temperature in the shade was 75·0° on the 15th, the minimum temperature was 48·0° also on the 15th.

At the Railway Hotel, Recess, Co. Galway, 6·050 inches of rain fell on 15 days during August. The largest falls were 1·010 inches on the 1st, ·930 inch on the 5th, ·840 inch on the 2nd, and ·740 inch on the 21st. There were alternate periods of very wet and of very fine weather, but no oppressive heat at any time.

PERISCOPE.

EXAMINATION OF CANDIDATES FOR THE ROYAL ARMY MEDICAL CORPS AND HER MAJESTY'S INDIAN MEDICAL SERVICE.

THE following papers were set for the recent Examinations:—

Medicine and Pathology.—Professor M'Call Anderson. Friday, 17th August, 1900, from 10 a.m. to 1 p.m. [N.B.—The replies to be written with the ink provided, and not with a pencil or pale ink.] 1. A young man, aged 20, was admitted into hospital on 1st June, 1900. He was suffering from hemiplegia and

anæsthesia of the right side, accompanied by aphasia, which set in suddenly without unconsciousness six months before admission. There was also evidence of descending sclerosis of the crossed pyramidal tract? (*a*) Give the probable diagnosis as to the seat and nature of the lesion, with the grounds for your opinion. (*b*) Give an outline of the kind of history probable in such a case. (*c*) What symptoms indicate descending sclerosis of the crossed pyramidal tract? (*d*) What anatomical lesions would you probably find in the event of a fatal issue? 2. Write down a list of the enlargements of the liver, dividing them into A. uniform, and B. irregular, enlargements. Underline those in which the enlargement *may be* very great, and put an asterisk opposite those which are likely to be tender. 3. (*a.*) Describe the characters of urine containing pus. (*b.*) What would lead you to conclude that it came from the pelvis of the kidney? (*c.*) How would you treat an attack of pyelitis? 4. Give, in tabular form, the diagnosis of amyloid disease from hypertrophic cirrhosis of the liver.

Surgery.—Sir William MacCormac, Bt., K.C.V.O. Friday, 17th August, 1900, from 2 p.m. to 5 p.m. All four questions to be answered. 1. In a case of gunshot through the middle of the thigh an arterio-venous aneurism has formed. Describe how this takes place, and give the diagnosis and treatment. 2. What are the causes of perineal abscess? Give the symptoms and treatment of a case. 3. What forms of malignant disease affect the anus and rectum. Give the diagnosis, symptoms, and treatment of a case of cancer of the rectum. 4. What are the varieties of umbilical hernia? Give the treatment of a case where strangulation has taken place.

Chemistry and Materia Medica.—Dr. Norman Moore. Saturday, 18th August, 1900, from 10 a.m. to 1 p.m. 1. How could you best make oxygen for therapeutic purposes? Mention the chief characteristics of this element. 2. What is the composition of coal gas, and how is it prepared? 3. Mention the chief diuretics and the chief anthelmintics of the Pharmacopœia, and give the dose of each. 4. What are the official preparations of (1) sulphuric acid, (2) the salts of zinc, (3) opium, (4) colocynth, (5) cantharides? Give in each case the dose of those intended for internal use. 5. How are the following forms of preparation made: (1) tinctures, (2) extracts, (3) confections.

Anatomy and Physiology.—Edward H. Taylor, Esq., F.R.C.S. Saturday, 18th August, 1900, from 2 p.m. to 5 p.m. 1. Describe the blood-vessels and nerves which lie in *immediate* relation to

the lower jaw. The description is to be confined strictly to the region of the bone, and the value of the answer will be largely determined by the appreciation shown of the surgical bearings of the question. 2. Give the distribution of the musculo-spiral nerve, and indicate the effects which would follow division of that nerve in the musculo-spiral groove. 3. Describe the minute structure of the mucous membrane of the small intestine, and state the part which an intestinal villus plays in intestinal absorption. 4. Describe the appearance presented by a transverse section through the middle of the cervical swelling of the spinal cord when examined with a low power of the microscope.

Natural Sciences.—Dr. Norman Moore. Friday, 24th August, 1900, 2 p.m. Candidates may answer not more than six questions, and they must confine themselves to two branches of science only. *Geology and Physical Geography*:—1. Explain the formation of the following rocks, and describe the structure of each: (1) granite, (2) mica-schist, (3) chalk, (4) lignite, (5) coal, (6) metamorphic limestone. 2. In what parts of the British Islands do Silurian rocks occur? What are the characteristic fossils of the Silurian rocks? 3. What is meant by the water-shed of a country? Describe in detail the water-shed of any region with which you are acquainted. *Zoology.*:—1. Name the chief intestinal parasites of the human species, and give a short account of the life history of each. 2. What are the chief forms of placentation in the mammalia? What is the essential structure of a placenta? 3. Write an account of the most characteristic points of structure in any three of the following animals: (1) elephant, (2) horse, (3) camel, (4) shark, (5) viper, (6) crocodile, (7) locust, (8) cuttle-fish. *Physics.*—1. How is a barometer made What are its uses in physical science? Explain the aneroid barometer. 2. What are the chief physical characteristics respectively of solids, fluids, and gases. 3. What are the chief forms of electricity, and how may each be produced? *Botany.*—1. Give the characters of the following natural orders, and mention any important plants in each: (1) Ranunculaceæ, (2) Cruciferæ, (3) Polygonaceæ, (4) Coniferæ, (5) Palmaceæ. 2. Give examples of parasites in the vegetable kingdom, and describe the method of growth of the parasite in each case. 3. Explain what is meant by the terms (1) æstivation, (2) caducous, (3) corymb, (4) glume, (5) involucre, (6) stipule, (7) horny albumen, (8) corm, (9) capsule, (10) placenta.

In Memoriam.

ARTHUR WYNNE FOOT,

M.D. UNIV. DUBL.; F.R.C.P.I.

DIED, SATURDAY, SEPTEMBER 1ST, 1900.

ANNO ÆTATIS SUÆ, LXIII.

"When sorrows come, they come not single spies,
But in battalions"—
"One woe doth tread upon another's heel,
So fast they follow."

IN our last number we recorded with sorrow the unexpected death of one of our ablest surgeons, Sir William Stokes, while serving his Queen and Country in the South African War. Now it is with renewed grief and regret that we chronicle the death of one of the most brilliant physicians that Ireland has ever produced—ARTHUR WYNNE FOOT.

It is true that, owing to his retirement from active practice eight years ago in consequence of failing health, DR. FOOT was not well known to the most junior members of his profession. But among his contemporaries and among physicians of even a few years' standing he enjoyed a well-deserved reputation as a great physician, an erudite and accomplished man of letters, and an original thinker of the first rank.

ARTHUR WYNNE FOOT was born in Dublin on January 22, 1838. His father was Mr. Lundy Edward Foot, Barrister-at-Law, of Upper Fitzwilliam-street, Dublin; his mother was Lelias, daughter of Mr. Nathaniel Callwell, of Fitzwilliam-square, Dublin. His family was an offshoot of the Foots of Cornwall, who came over to Ireland with William III. He was educated at Portarlington, under the ferule of the Rev. J. A. Wall, M.A. In due time he entered Trinity College, Dublin, and was apprenticed as a medical student to Mr. Maurice H. Collis, one of the Surgeons to the Meath

Hospital and County Dublin Infirmary. Of this institution he was destined in after-years to become physician, and finally senior physician after the resignation of Dr. William Stokes, of world-wide fame.

In 1862, Foot graduated in Arts and Medicine in the University of Dublin, and at the same time took the Licenses of the Royal Colleges of Physicians and Surgeons, Ireland. In 1865 he took the degree of Doctor of Medicine, and in 1866 he became a Fellow of the Royal College of Physicians of Ireland, then known as the King and Queen's College of Physicians in Ireland. Shortly after he qualified, Dr. Foot was appointed a Demonstrator of Anatomy in the School of Physic in Ireland, Trinity College, where he soon made a name for himself as a teacher. He remained on the staff of the School of Physic for eight years—that is until 1871, when he was appointed Physician to the Meath Hospital in the room of Dr. Alfred Hudson, resigned. His election took place on April 8th, and in the following June he took, with three others, the Diploma in State Medicine which had been instituted in Trinity College, Dublin, at the instance of Dr. William Stokes, F.R.S., D.C.L., the Regius Professor of Physic in the University of Dublin. Foot's fellow candidates for the Diploma were John Todhunter, Gerald Francis Yeo, and John William Moore—all of them his personal friends.

At the Meath Hospital Foot threw himself into the work of a clinical physician with characteristic enthusiasm and unqualified success. His Introductory Addresses breathed the *genius loci*, and are models of what such addresses should be in manner, matter, and diction. To pathology he paid especial attention, as was to be expected of one who as a medical student had won the silver medal of the Pathological Society of Dublin for an essay on "The Pathology of Diseases of the Testis."

Towards the end of 1872 Dr. Foot was appointed Lecturer on Practice of Medicine in the Ledwich (Original) School of Medicine, Peter-street, Dublin, in succession to Dr. James Little, who was elected to the Chair of Medicine in the Royal College of Surgeons in Ireland on December 13th, 1872. As a Lecturer Dr. Foot was as thoroughly

successful as he had already proved to be in the capacity of a clinical teacher. By a natural coincidence, it was fated that he should once more succeed Dr. Little when that able Professor vacated the Chair of Medicine in the Royal College of Surgeons in 1883. On June 2nd of that year he was elected Professor of Medicine in the College School, continuing to discharge the duties of the Chair, first singly and afterwards (on the amalgamation of the Carmichael College of Medicine and of the Ledwich School of Medicine with the School of Surgery of the Royal College of Surgeons) in conjunction with his colleague Dr. John William Moore, until obliged by failing health to give up the active practice of his profession in 1893. In 1880 he was chosen President of the Pathological Society of Dublin.

Dr. Foot's contributions to medical literature were of sterling merit. The following, among many others, appeared from time to time in the pages of this Journal—"Chromidrosis"—a thesis for the degree of Doctor of Medicine in the University of Dublin in 1866, "Bromidrosis" (1866), "Xanthelasma" (1876), "Aneurysm of the Abdominal Aorta in a Female" (1870), "Select Clinical Reports" (1872-73-74-75-81-86), "Commentaries on Diseases of the Kidneys" (1878-79). The subjects of some of his other papers were "Argyriasis," "Gastric Epilepsy," "Gynæcomazia," "Hydrophobia," "Tuberculosis," "Scleroderma," "Epilepsy," "Narcolepsy," "Morphinism," "Life Assurance," "Graves's Disease," "Reminiscences of the Dublin Biological Club" (1892), &c. These papers are valuable monographs on the various subjects with which they deal. They display the most extensive research, coupled with the most masterly originality, and are written in singularly clear, beautiful, and what may be called *nervous* English. It is to be hoped that Dr. Foot's remarkable contributions to Medicine will be gathered together and republished in book-form under the editorship of one of his many and admiring pupils.

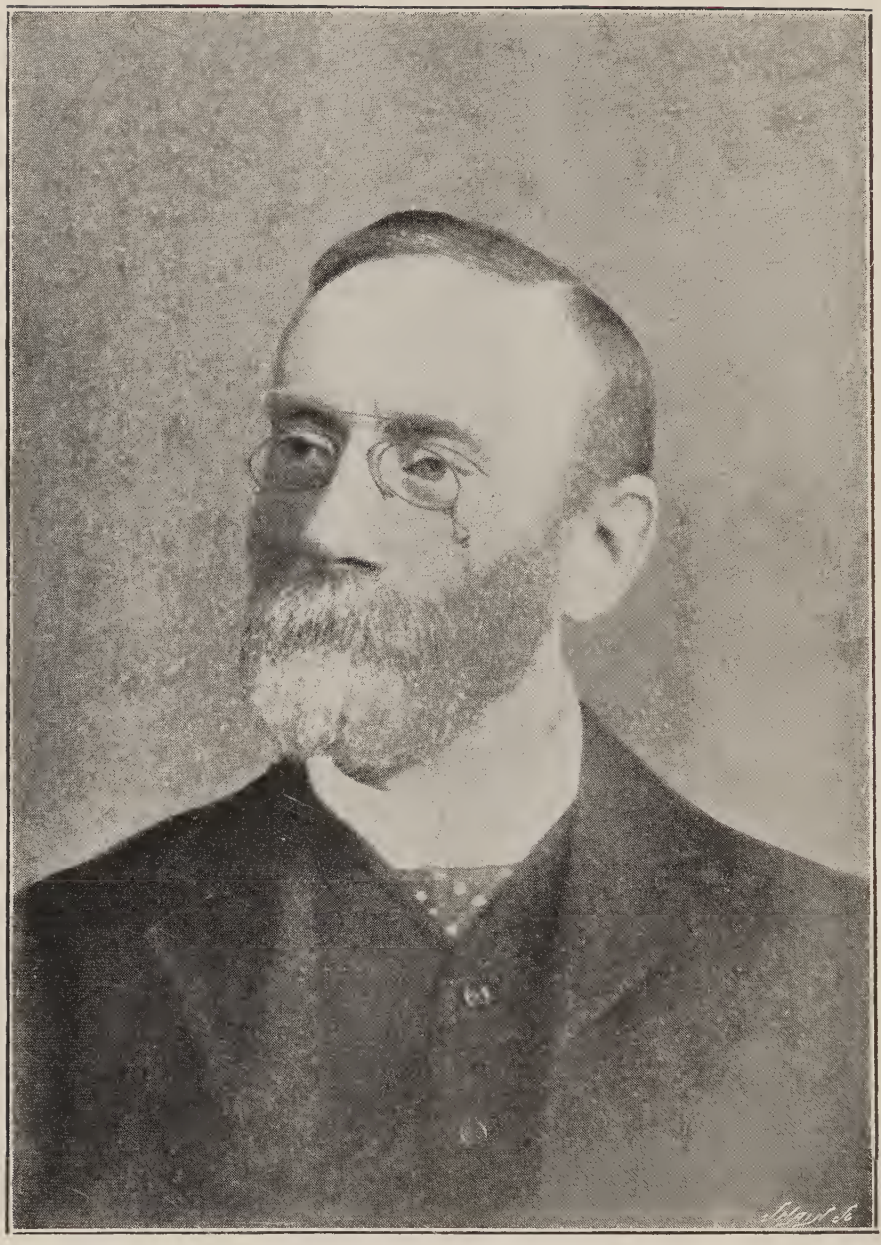
Many years ago Dr. Foot married the eldest daughter of Mr. Edward Hunt of Belmore, near the ruins of Jerpoint Abbey, Thomastown, Co. Kilkenny. Another of Mr. Hunt's daughters is married to Dr. Gerald F. Yeo, formerly

Professor of Physiology, in King's College, London. Dr. Foot's wife survives him, and she it was who tended him with unwearied and loving devotion through years of delicate health. To her unceasing and watchful care he owed in great measure the prolongation of his life. His malady was locomotor ataxy, associated with repeated attacks of hæmorrhage due to sclerosis of the arterial system. To the last his great mental powers remained almost intact, and the end came with startling suddenness. On the morning of Saturday, September 1st, he was seized with an attack of apoplexy. Absolute unconsciousness accompanied the attack, and in six hours he passed through death into Life.

A great physician by education, training, and experience, Foot never enjoyed a large private practice. He was often misunderstood, and the keenness of his intellect coupled with a satiric vein sometimes alienated those whose grasp of medicine was less philosophic, and who approached its practice in a less reverent spirit and a more matter-of-fact fashion. Sham, quackery, and cant Foot utterly abhorred, and those who coquetted with such doubtful methods of professional advancement sometimes came under the lash of his epigrammatic sarcasm.

But among his past pupils he was idolised. They had the highest opinion of his diagnostic and remedial powers. By them he was frequently called in consultation to the most difficult and urgent cases in the most distant parts of the country, and while his health permitted there was probably no other Dublin consultant who travelled more over Ireland than Dr. Foot. Fertile in resource, brave in the presence of infection, knowing neither class nor creed in the practice of his profession, tender-hearted and sympathetic as a woman in trial and sorrow, Arthur Wynne Foot played his part in life nobly and well. An inner circle of friends, who knew the man, came first to esteem him, then to love him. To them his death is a personal sorrow, which time alone can assuage. To them and to all time his life-work happily remains as a heritage and a monument more enduring than brass.

J. W. M.



ARTHUR WYNNE FOOT, M.D. Dubl., F.R.C.P.I.

Died Saturday, September 1, 1900.

Anno Ætatis Suæ LXIII.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

NOVEMBER 1, 1900.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XV.—*Urinary Infiltration.*[a] By HENRY GRAY CROLY, F.R.C.S.; Past President Royal College of Surgeons; Senior Surgeon Royal City of Dublin Hospital.

THE subject of the present communication is one of great importance—the cases are always most serious, and tax the knowledge, skill, and courage of the surgeon, whose motto should be *Semper paratus.* When House-Surgeon in the Hospital—to which I have ever since had the honour and great advantage of being Visiting Surgeon—I was allowed, through the kindness of my late teacher, colleague and friend, Mr. Tufnell, to read a paper at the old Surgical Society on a case of "Lacerated Urinary Bladder," admitted during his accident week. I exhibited the recent specimen of fractured pubes, caused by a dray-wheel passing over the man's body. In that communication I adopted the terms *rupture* when caused by disease, and *laceration* when caused by violence from without.

In my clinical teaching I have applied these terms—viz., ruptured and lacerated urethra—as causes of urinary infiltration. Urinary extravasation, or infiltration, is one of the most serious affections which a surgeon is called upon to

[a] Read before the Section of Surgery, Royal Academy of Medicine, Ireland, Friday, November 10, 1899.

treat, and though the symptoms usually present should admit of an accurate diagnosis, cases are not infrequently overlooked, valuable time lost, and lives risked by the unnecessary delay in adopting active treatment.

It has fallen to my lot to meet with a large number of such cases in my hospital and private practice. The beautiful original drawings of some of my cases, taken in the hospital theatre and wards by my friend and former resident pupil, Mr. (now Dr.) Paul Carton, show the appearance in the various stages. It is a rather remarkable fact that in no surgical work have I ever seen a drawing illustrating this affection. I have found these drawings of much value in my clinical teaching, and I am sure they will be examined with much interest by the members of this Section of the Royal Academy of Medicine.

A short reference to the surgical anatomy of the perineum will doubtless prove interesting and instructive to many who may not have time or opportunities for refreshing themselves in anatomy.

The portion of the urethra which gives way through ulceration is, most frequently, the vicinity of the bulb. The rupture usually takes place anterior to the triangular ligament, and under cover of the strong fascia known as Colles' middle perineal fascia, which is attached at the sides to the rami of pubes and ischia, and being reflected posteriorly joins the anterior layer of the triangular or interosseous ligament. The urine, which escapes through rupture or laceration in the vicinity of the bulb, or in the spongy urethra, makes its way anteriorly—the only way of escape—and quickly reaches the scrotum and perineum, and extends along the track of the spermatic cord and lower part of the abdomen, sometimes ascending to the umbilicus and occasionally as high as the axillæ. When the extravasation occurs in a case of old-standing stricture, the practitioner is prepared more or less for this serious complication; but when the infiltration occurs in connection with perineal abscess the symptoms are not always so well marked or easily recognised.

In traumatic cases the attention of the surgeon is brought directly to bear on the case. When the infiltration occurs deeper than the triangular ligament the symptoms are by

no means well marked, and fatal symptoms and signs may be the earliest indications. The usual scrotal, penile and perineal signs may be absent; ischio-rectal sloughing and a gangrenous patch on the glans penis, with great depression, delirium, hiccough, and failing pulse, are forewarnings of impending dissolution.

Mode of Production of Infiltration of Urine.—When the bladder is distended the abdominal muscles force the urine through the ruptured or lacerated urethra into the cellular membrane. The scrotum, penis, the perineum, and the groins are distended with urine. The first effect is relief to the patient's sufferings. There is no more straining, and the spasm of the stricture, no longer excited by pressure from behind, becomes relaxed. After this deceptive interval of ease another order of symptoms shows itself. The urine, in consequence of its long detention in the bladder, becomes altered. Its watery parts have been absorbed, it is in consequence saturated with salines, and its stimulating properties increased. Wherever this fluid penetrates it first excites inflammation and then kills the parts with which it is in contact.

Causes of Urinary Infiltration.—Extravasation of urine may be of traumatic origin, following direct injury to the perineum by falling astride on a joist of timber on a scaffolding, or by the kick of a horse whilst being shod, or, as in one of my cases, by a kick of a man's shoe from behind whilst patient was in the stooping posture. The severe hæmorrhage from the urethra which immediately follows such injuries, naturally assists the surgeon in his diagnosis, and he is on the look-out for symptoms of infiltration. Assuming the patient to be in sound health the urine is much less irritating than in cases of old-standing strictures, and consequently the local mischief and constitutional disturbance are much milder.

In old-standing permanent strictures important changes take place behind the stricture—ulcerative changes caused possibly by careless catheterism, perineal abscess, the urethra ruptures at its *weakest point*, and produces extravasation of urine in its most unhealthy form.

In Sir B. Brodie's time the anatomical site of permanent

stricture was referred, by that distinguished surgeon, to the membrano-bulbous portion of the canal—in other words, behind the bulb; but modern surgeons, notably Sir Henry Thompson, have proved by careful investigation and examination of the specimens in museums that the bulbo-spongy urethra—in front of the anterior layer of the triangular ligament—is the most frequent seat of the disease. It therefore follows that in cases of infiltration, caused by the bursting of old-standing strictures, the urine escapes anterior to the triangular or interosseous ligament, and beneath the middle perineal fascia of Colles. The attachment of this important structure, to which I have referred, at each side to the ischium and pubes, and posteriorly to the base of the triangular ligament, prevents the urine passing backwards or laterally, and leaves an easy escape forwards and upwards into the perineum, scrotum, penis, track of the spermatic cord, and lower part of abdomen, occasionally passing backwards towards the lumbar region, and rising as high as the umbilicus, or even to the axillæ. In such extreme cases the surgeon's sound anatomical knowledge, courage, and promptitude are all requisite to rescue his patient.

The *sudden* swelling in the perineum, the œdematous scrotum and penis following on injury, or on the act of straining to pass water in retention caused by stricture, point to this truly formidable affection, and no time should be lost in dealing with the case. When the urine escapes insidiously into the sac of a perineal abscess the surgeon may be thrown off his guard; the symptoms, however, soon become apparent. In those cases where the laceration or rupture occurs between the layers of the triangular ligament or posterior to it, the visible signs may be absent, the urine makes its way round the neck of the bladder into the ischio-rectal fossæ, and occasionally into the corpus cavernosum. Destructive inflammation is thus set up out of reach of the surgeon's knife, and a train of symptoms sets in pointing to destruction of tissues and loss of life. A black spot on the glans penis is considered by all surgical authorities as a fatal sign.

The recto-vesical layers of the pelvic fascia forms the line

of demarcation between the perineum and the abdominal viscera through the space between the bladder and the other parietes of the pelvis, and affords resistance to the progress upwards of effusions from below. This structure may be considered as a shelving roof to the perineum and a concave floor to the abdomen. Urine effused *above* the level of this fascia must soon reach the peritoneum and produce the most disastrous consequences.

The symptoms usually present in cases of infiltration anterior to the triangular ligament are absent; in fact the patient might succumb without the practitioner called in being aware that he had so serious a case to deal with. The scrotum, penis, or perineum is rarely affected. The history of the case, however, should enable an experienced surgeon to make a diagnosis. The patient having suffered long from a stricture which necessitated prolonged straining, and following a sudden effort to empty the bladder, a sensation of temporary relief, with no outward appearance of urine or hypogastric tenderness, and rapidly setting in of low fever, especially if any perineal swelling follows, should settle the case. If that black spot on the glans penis, caused by infiltration into the corpus cavernosum, is observed, the diagnosis and prognosis may be considered as settled. Gangrene usually sets in, preceded by a green-leaf appearance, in cases of infiltration within a few hours—it may occur earlier; a great deal depends on the character of the urine.

Urinary infiltration from so-called false passages and clumsy catheterism is rare; if the latter were a cause infiltrations would be common, as no operation in surgery is so frequently undertaken by those who know almost nothing of the anatomy of the parts with which they deal so flippantly.

When extravasation occurs between the *orifice* of the urethra and the *bulb* the swelling is usually confined to the *penis*—these cases are not, in my experience, common; if between the *scrotum* and front of the *bulb*, Colles' middle perineal fascia, as I have described, limits the effusion—these cases are the most frequent. If the rupture occurs in the membranous portion of the urethra, the infiltration will be hemmed in between the layers of the triangular or Camper's

interosseous ligament, and can escape only when suppuration and sloughing occur. In deep-seated ruptures *behind* the *triangular ligament* (which are fortunately rare), the urine usually follows the course of the rectum and may point near the anus; and if it bursts through the pelvic fascia at its thinnest part the urine may enter the peritoneum.

Gangrenous erysipelas of scrotum, following on "acute anasarca," or inflammatory œdema of the scrotum of Liston, might easily be confounded with infiltration under certain circumstances. Here, again, experience comes to the rescue.

The extent of extravasation and subsequent sloughing will depend upon—(*a*) The force with which the urine is injected; (*b*) the quality of the urine; (*c*) the distension of the cells of the areolar tissue.

In bad cases, rigors, vomiting, low fever ("typhoid"), rapid small pulse, dry brown tongue, hurried respiration, anxiety, restlessness, and red lines along the inguinal canal, are indicative of infection.

In extreme cases the pulse rises above 140, and becomes intermittent, the abdomen distended and tympanitic, hiccough, sordes on teeth, jaundiced skin, cold, clammy sweats, subsultus tendinum, black spot on the glans penis, Hippocratic face, delirium and coma (urinary apoplexy), are signs of dissolution.

Differential diagnosis between urinary infiltration and gangrenous erysipelas of the scrotum:—

Urinary Infiltration.	*Erysipelatous Scrotum.*
History of stricture or injury.	No stricture history.
Swelling sets in at once in scrotum.	Urine can be expelled in ordinary way.
Perineal swelling usually hard.	Large catheter can be passed.
No urine passed in natural way.	Redness *precedes* swelling of scrotum.
The characteristic urinary odour.	*No perineal swelling.*
	Absence of urinary odour.
	Constitutional symptoms not usually so urgent.

Points in common: Swollen scrotum, purple-coloured phlyctenulæ, red lines along groin, low fever, restlessness, rigors, penis swollen. The treatment is the same as regards the *scrotal* tumour—viz., free incisions. Mistaking urinary

infiltration for gangrenous erysipelas would be very serious, as the deep *perineal* incision, so very important in the *extravasation*, is not at all needed in erysipelas cases.

In the treatment of urinary extravasation three main objects must be kept in view—viz.: (1.) To prevent further escape of urine into the areolar tissues. (2.) To give free vent to that already extravasated. (3.) To combat fever, to support strength, and to carry out Listerism in dealing with the parts involved.

In urinary extravasation place the patient on a table in the lithotomy position; pass a Syme, Wheelhouse, or an ordinary catheter very carefully to the rupture, or without any such guide make a *deep*, long central incision into the perineum from behind forwards—a finger in the rectum is a safe procedure; if a full-sized silver catheter can be passed into the bladder tie it in. I leave it in for a fortnight, washing it thoroughly several times a day, by means of a suitable syringe, with warm boric lotion. Then make at least two deep, long incisions, not scarifications, into the scrotum, plug them at once with strips of cyanide gauze saturated with turpentine to arrest hæmorrhage; *do not plunge the knife for fear of injury to the testes;* make incisions into the penis also, and if there is redness or swelling along the track of the spermatic cord follow such lines with the scalpel, also on the abdomen or wherever any signs exist of infiltrated urine. These incisions must (to be of real value) be made promptly and courageously—no temporising. The subsequent dressings, two or three times a day, tax the time and the skill of those who are entrusted with such cases. The use of the antiseptic spray near the bed I find most healthful for the ward and its inmates.

I have been much struck with the rapid improvement, locally and constitutionally, in these very severe and dangerous cases. The surgeon, house-surgeon, resident pupil and dressers are amply rewarded by the splendid results attained. I have but *one* death to record in a large and long experience of cases of urinary infiltration.

In some of my cases the testes were laid bare, the groins showing deep channels, the abdomen and loins deeply excavated, healthy granulations formed, and the original wounds

healed. Plenty of fresh air, good nutritious food, tonics, and sedatives—all aid in perfect restoration to health. By keeping a catheter in for some weeks after the operation, in the way I have described, the patient passes water in a full stream and requires no further use of the instrument.

The following cases are selected out of a large number from my note-books:—

Case I.—I was summoned in consultation with my late father, on a Christmas Eve, to see Mr. ——, aged fifty, residing beyond Rathfarnham. The patient suffered for years from organic stricture, and had instruments passed by a surgeon in the city from time to time. On returning home the day my father was called on to attend, the patient got retention and used considerable force endeavouring to empty his bladder, only a few drops of urine escaping. The patient was alarmed at seeing the scrotum becoming enlarged, and when I arrived I found the scrotum, penis, and perineum presenting all the signs of extensive urinary infiltration. After a short consultation we decided to operate at once. Chloroform having been administered, I made a free and deep incision in the central line of the perineum; I incised the scrotum also. Carbolic acid—which had just come into use at the time—I applied very strong. The result was remarkable—the wounds cleaned quickly and the patient made an excellent and quick recovery.

Case II.—Shortly after above case occurred I was sent for to visit Mr. ——, who stated that he suffered from organic stricture for years. He was seized with retention, and was in the act of straining when I arrived. Seeing the scrotum swollen I lost no time in making free incisions in the mesial line and scrotum. The patient made a good recovery.

Case III.—Mr. ——, aged fifty-five years, was attended by a practitioner for some weeks, and had instruments introduced. Infiltration to an enormous extent occurred. The medical attendant in charge of the patient punctured the scrotum with a trocar and became alarmed when he got no fluid. When I saw this gentleman his condition was most alarming. My friend and former pupil, Dr. (now Lieut.-Colonel) Charlton, R.A.M.C., P.M.O., Netley Hospital, who was stationed at Beggar's-bush Barracks, assisted me in the operation, which required the most extensive incisions I was ever called upon to make. Notwithstanding the free use of carbolic dressings, changed frequently, there was much sloughing and

EXPLANATION OF PLATES.

(From Drawings of Cases of Urinary Extravasation by Paul Carton, M.D B.Ch. Univ. Dubl.)

Plate I.

This drawing was made in the Theatre of the Royal City of Dublin Hospital at the time the operation was about being performed by Mr. H. Gray Croly.

Plate II.

This drawing was executed in the Theatre of the Royal City of Dublin Hospital when the incisions were made into the scrotum. The appearance is very characteristic of the infiltrated tissues covering the testes. Mr. H. Gray Croly's patient.

Plate III.

Showing the deep central incision in the middle line of the perineum, also incisions in the scrotum extending to the bottom of the scrotum. Case under care of Mr. H. Gray Croly.

Plate IV.

Showing perineal and scrotal incisions. In this case a catheter is in the bladder, fixed in by means of an india-rubber ring round the penis. The pieces of silk are fixed to the groin by means of loops of adhesive plaster. A tube from the catheter conveys the urine into a vessel containing carbolic lotion. Case under care of Mr. H. Gray Croly.

Plate V.

Showing the appearance of the scrotum when the wounds which were made to relieve the infiltrated scrotum were healed. Patient under the care of Mr. H. Gray Croly.

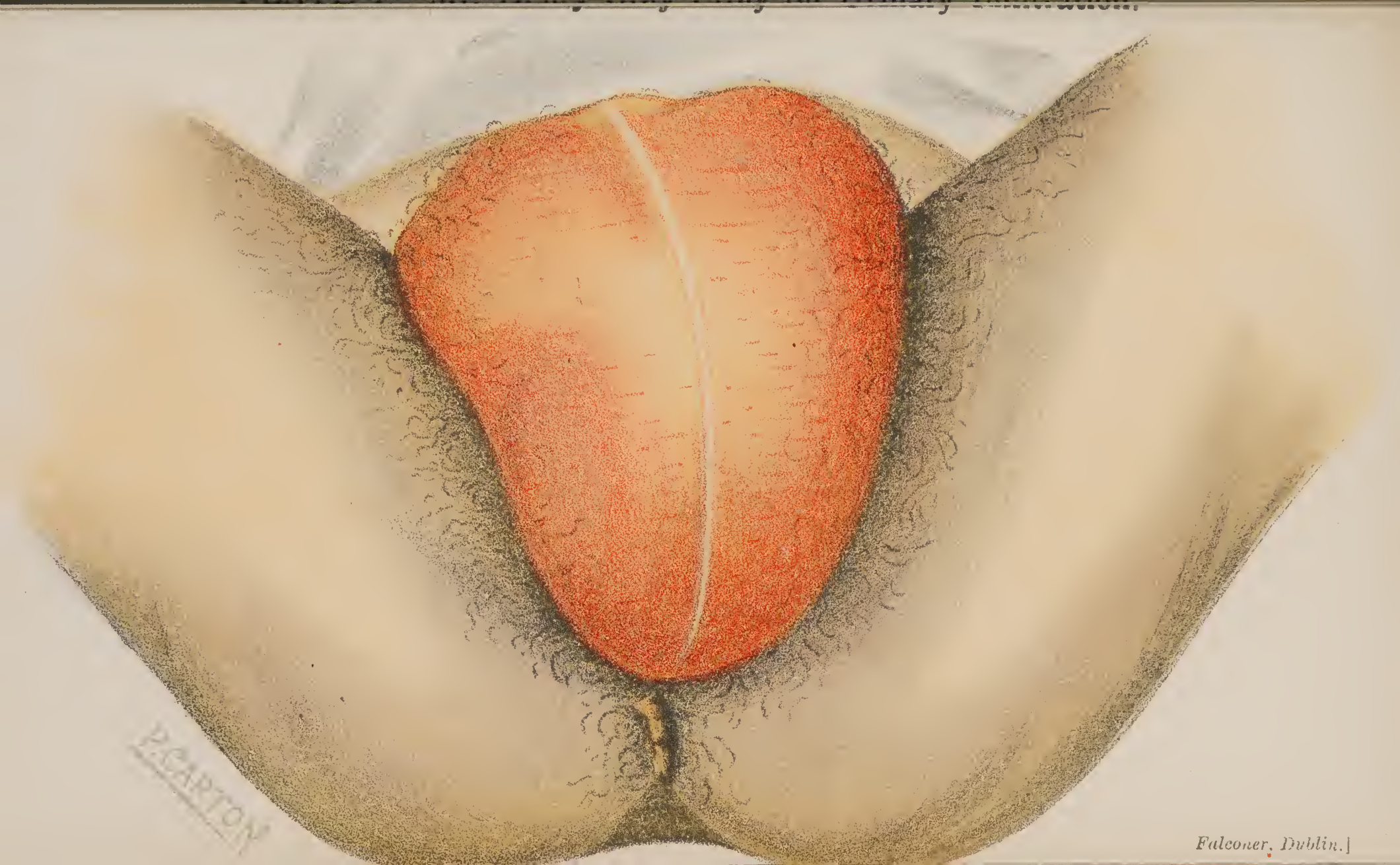
Plate VI.

This drawing shows the reddened and swollen scrotum, with a gangrenous patch. Patient under the care of Mr. H. Gray Croly.

Plate VII.

Erysipelas of penis and scrotum.

Patient under the care of Mr. H. Gray Croly.



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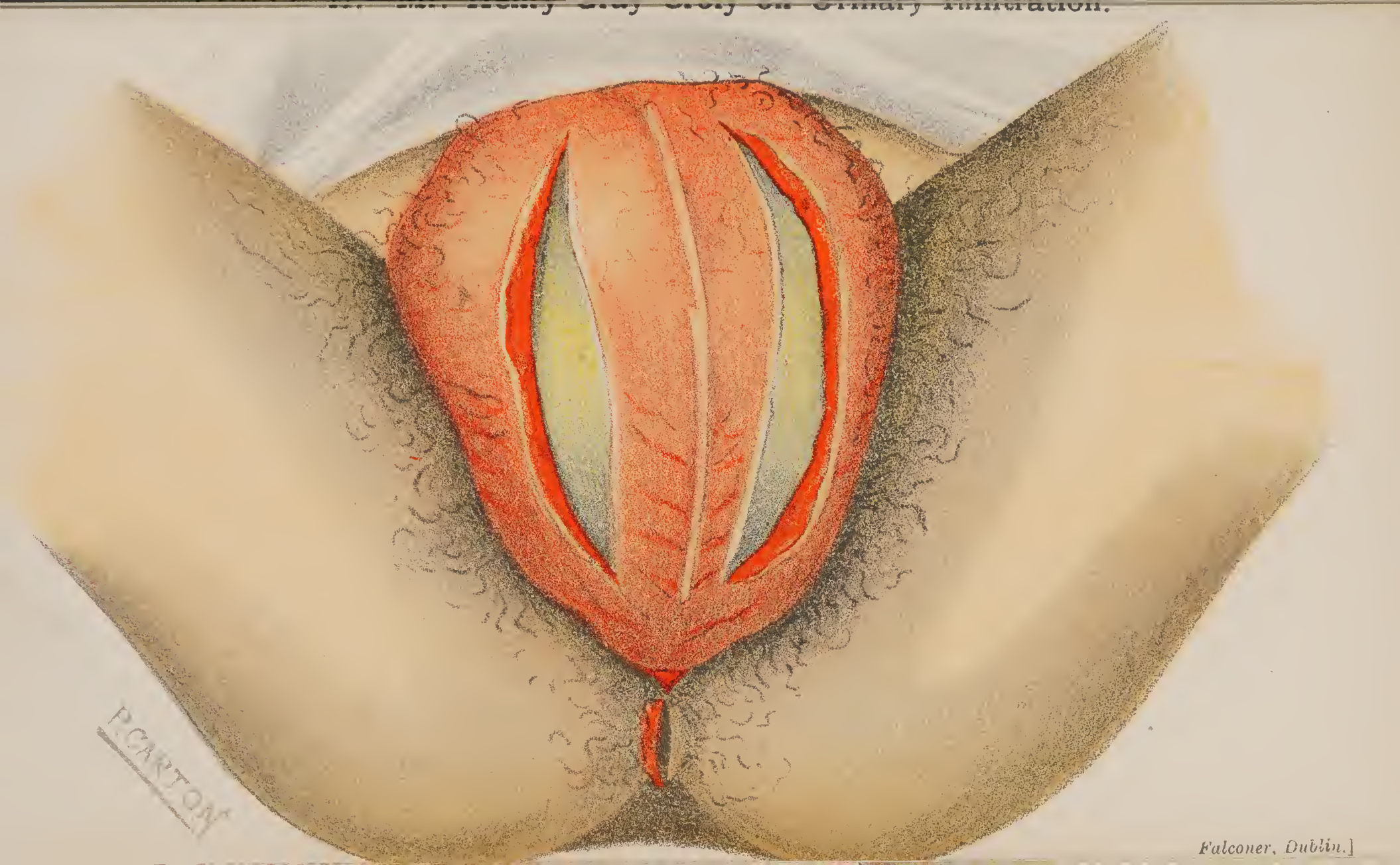

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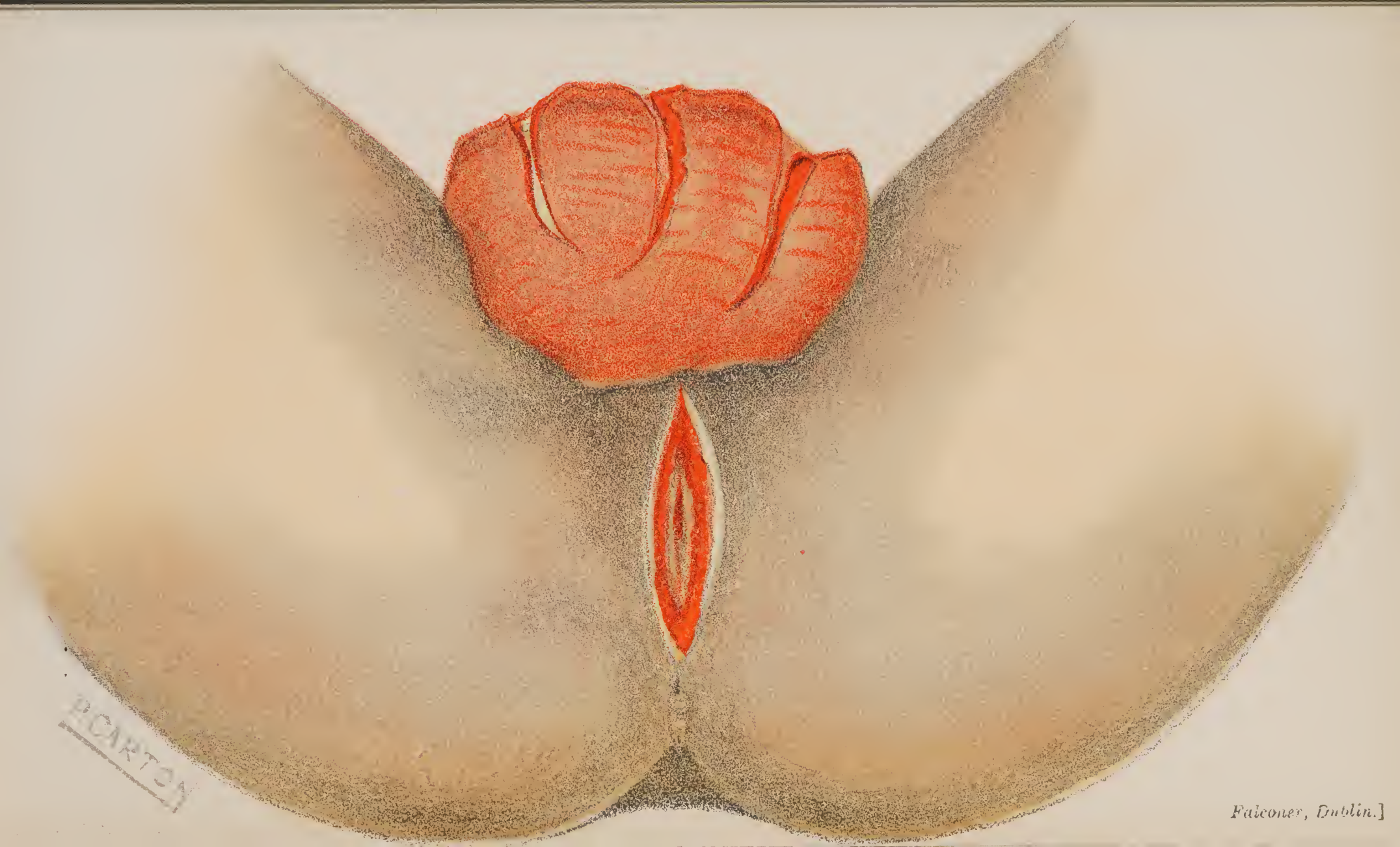

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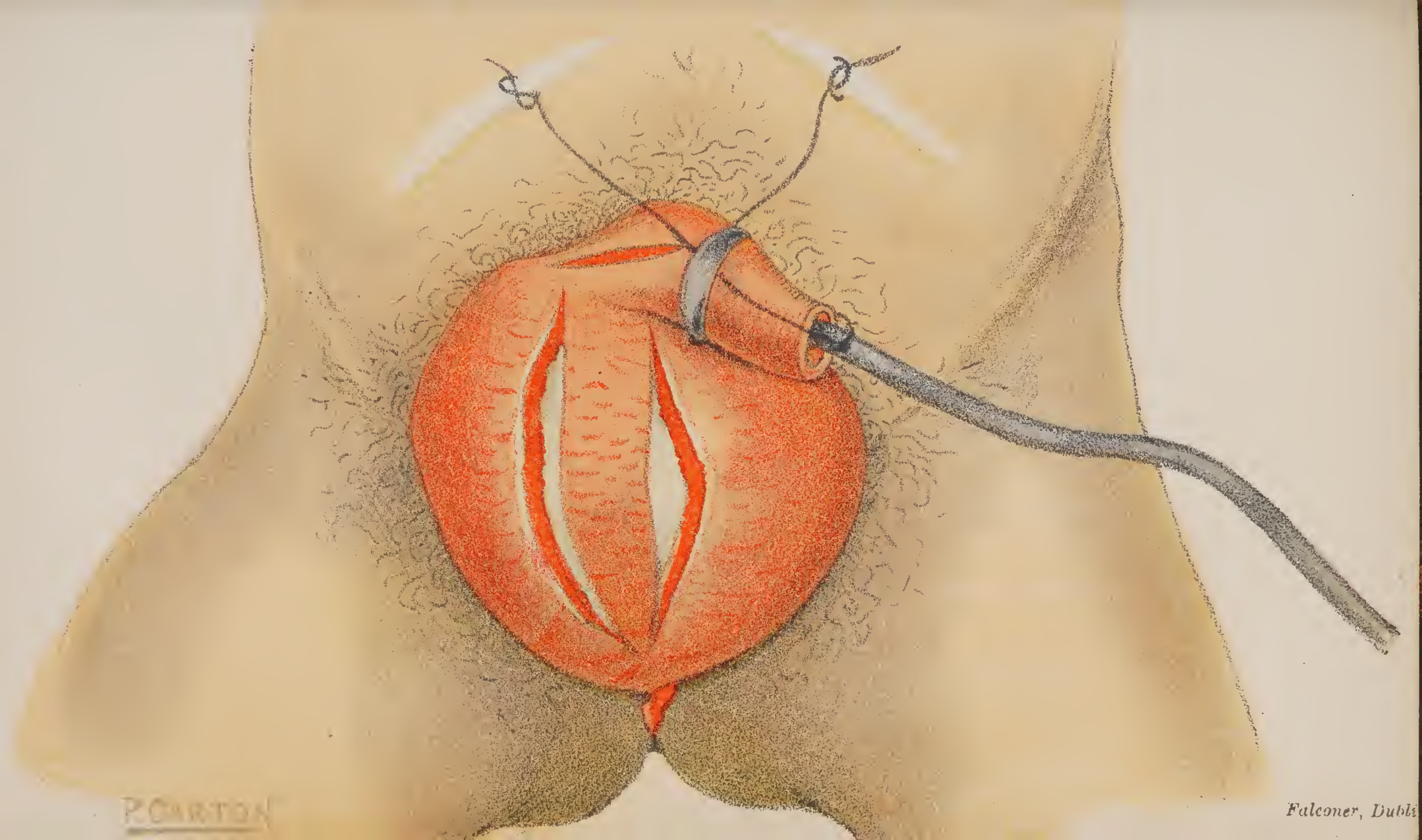
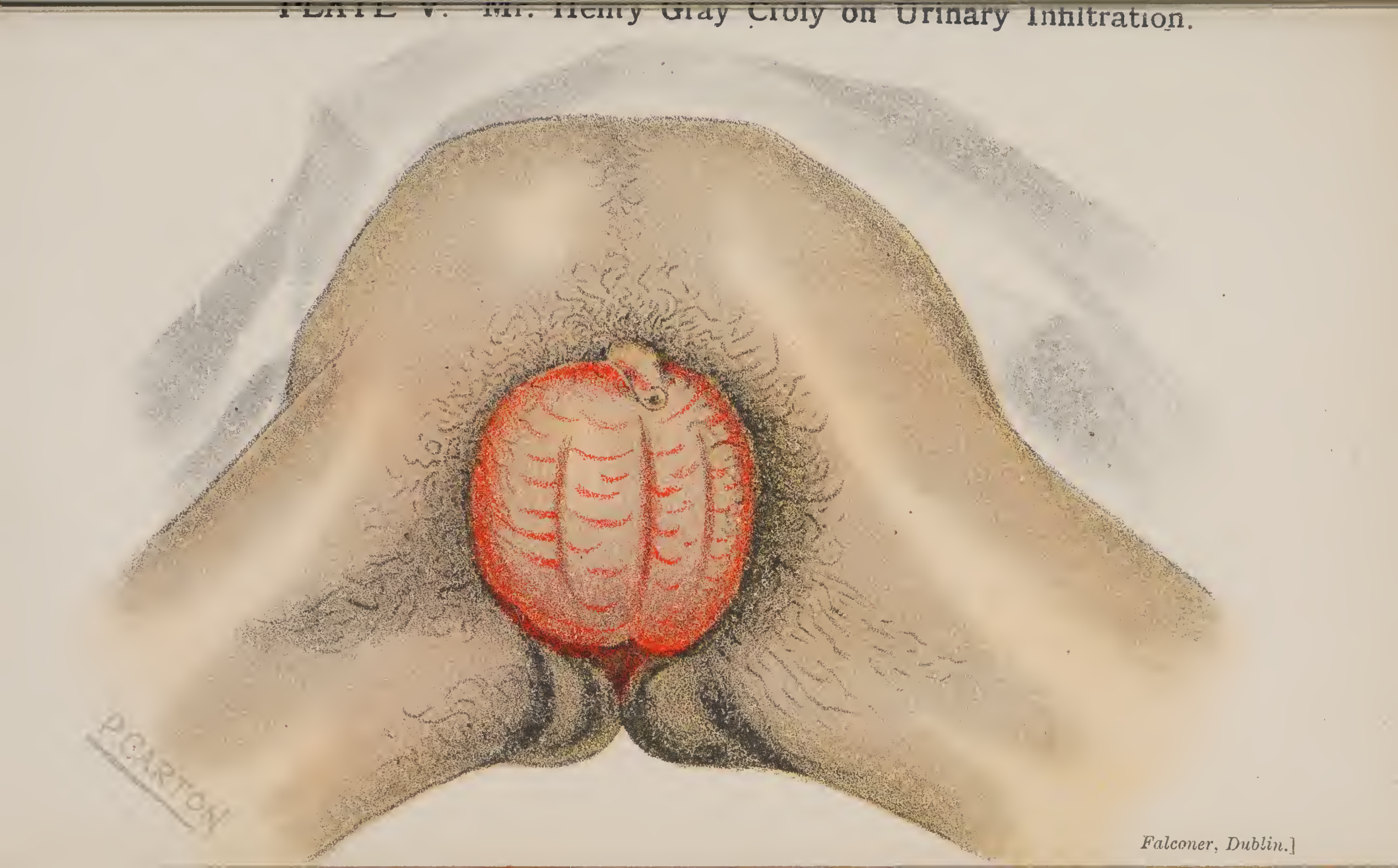


P. CARTON

Falconer, Dubli

PLATE V. Mr. Henry Gray Croly on Urinary Infiltration.



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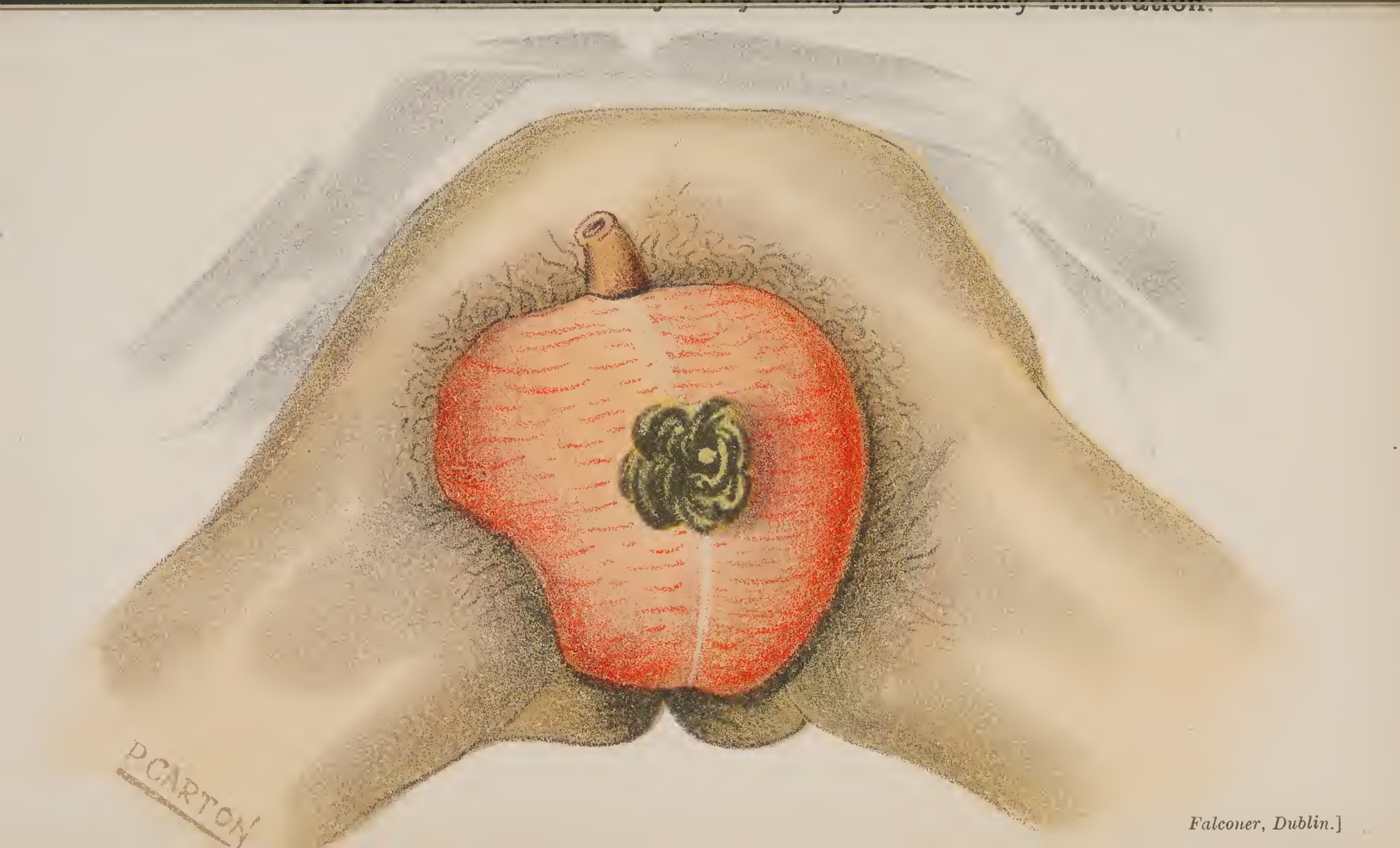

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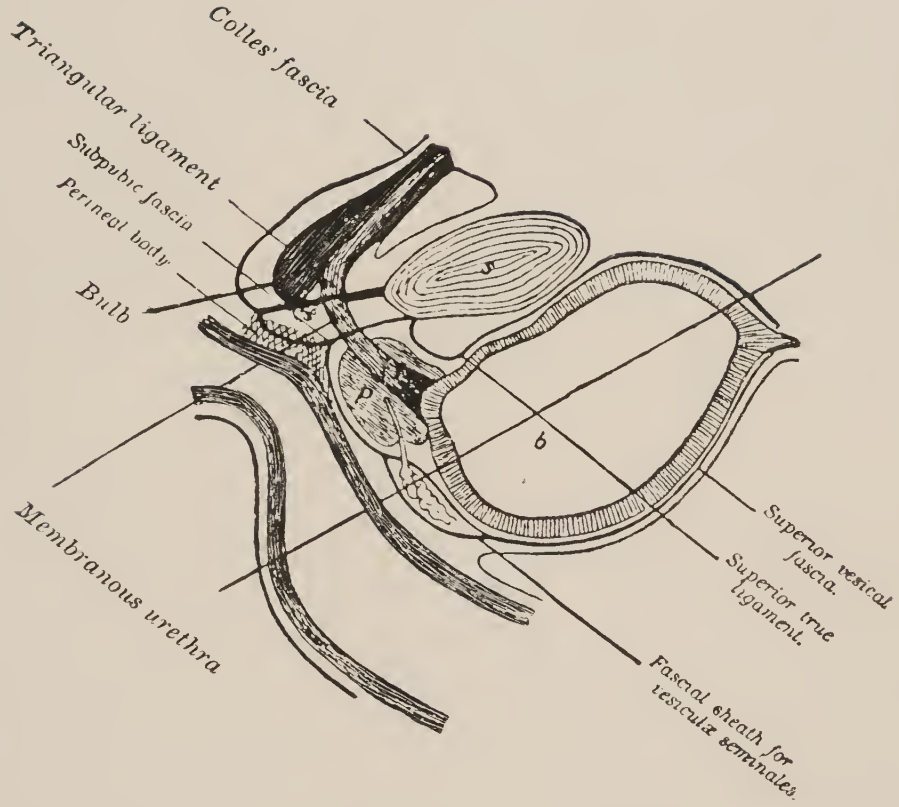
PLATE VIII.



The Fascia of the Urethra, Prostate, and Bladder: *r*, rectum; *s*, symphysis pubis; *b*, bladder; *p*, prostate.

(*Macalister.*)

fœtor. The testes were laid bare. The inguinal canals and abdomen were involved; the sloughing extended to axillæ. This case ultimately made a good recovery.

Some of the hospital cases which came under my care are well shown in the valuable original drawings taken by my former pupil, Mr. Paul Carton (now Dr. Carton, Assistant Master Rotunda Hospital).

Case IV. ——, tailor by occupation, aged fifty-five years. Suffered from organic stricture of urethra for years. Presented himself at the hospital at my morning visit. Refused admission, though I urged him to stay in. He returned in three days in the most dreadful condition—scrotum, penis, perineum, abdomen, and loins showing signs of gangrenous infiltration. Skin jaundiced; pulse weak and intermittent; breathing oppressed. Notwithstanding the most energetic treatment, operative and otherwise, the sufferer succumbed.

This was the only case of infiltration which terminated unfavourably in my practice.

Case V.—C. P., aged thirty-seven; completed army service twelve years. Brought a distance of three miles in a cab to hospital, January 21st, 1897. States he had been suffering from stricture for over five years; was in great pain, bladder distended; instrument could not be passed; bladder tapped, suprapubic; 20 ounces of urine drained off. 22nd.—Bladder again tapped, 18 ounces of urine drawn off. 23rd.—Infiltration occurred suddenly, as I was in the ward. Operated on at once. I was assisted at the operation by my brother, Surgeon-Lieut.-Col. Arthur England Johnson Croly, F.R.C.S., R.A.M.C. (now on Lord Northcote's staff at Bombay). Two impermeable strictures were divided and incisions made at each side of the scrotum; incisions above pubes. No. 10 catheter was passed and tied in; boric lotion used frequently with syringe. 24th.—Temperature never rose a degree. March 17th.—Wound in perineum quite healed; passes urine in a large stream. April 23rd.—Sent to Convalescent Home.

The above was a wretched, wasted man, pale and anæmic from continuous suffering. He was employed on fatigue duty, and neglected to report himself sick fearing he would lose his post. This man was a great sufferer for years. Urine dribbled, wetting his clothes constantly. The catheter was kept in for over three weeks from the time of the operation with

the very best result. One day, before the patient left hospital, in passing water he "hit a screen" some feet off, and laughed so heartily that his comrades in the ward were surprised and amused, the patient having been previously very silent and much depressed in consequence of his miserable condition.

ART. XVI.—*Bubonic Plague.*[a] By MICHAEL M'HUGH, M.D.; Physician to St. Vincent's Hospital, Dublin.

ON the last occasion on which I had the honour of representing my colleagues in this place, and of delivering an Address introductory to the medical session in this hospital, I took the opportunity to refer to the enormous advantages likely to be derived from the prompt isolation of cases of infectious disease in suitable hospitals, and, at the same time, to animadvert on what appeared to me to be the defects of our sanitary and hospital arrangements in Dublin, when looked at from this point of view. The subject naturally recurs to my mind at the present moment. There has occurred quite recently and almost within striking distance of our own community an outbreak of a contagious disease, so fell in its effects, both with respect to the high mortality amongst those affected by it, and also as regards its tendency to diffuse itself widely amongst the population, that the necessity for isolating cases of the disease, and even of persons under suspicion of having come into contact with such cases, is not only generally recognised, but also rigidly carried into practice.

The Bubonic Plague, which will be the subject of my observations this afternoon, has, after an interval of nearly two centuries and a half, again made its appearance in the British Isles. It has effected a definite lodgment in Glasgow, and, owing to the great freedom of communication which exists between that city and other parts of the United Kingdom, one may say that it is almost at our own doors. The efforts to isolate all cases and to stamp out the disease

[a] An Address delivered at St. Vincent's Hospital, introductory to the Session of 1900–1901, on Tuesday, October 2, 1900.

in Glasgow are, no doubt, being prosecuted with great vigour and circumspection. Nevertheless, it is obvious that if anything like an epidemic should occur in that city, to prevent it from spreading to others is a task which will tax the energies and resources of their sanitary authorities to the utmost, and will form the chief hygienic problem with which the inhabitants of these countries will have to deal in the near future.

The disease is, without doubt, identical with that which appeared in Western countries in a particularly virulent form in the fourteenth century, and under the name of the Black Death created such devastation in Europe, that it is computed that no less than twenty-five millions of persons were destroyed, a number equal to one-fourth of the total population. There are reliable records of several previous epidemics, and notably of one which occurred in the reign of the Emperor Justinian, in the sixth century, the source of which was traceable to Northern Africa. The visitation of the fourteenth century, however, differed from the preceding ones, not only in its greater malignancy, but also in the fact that it appears to have had its origin in Central Asia, and to have reached Europe by way of the Crimea and the Black Sea. It is thought also that dating from this period the plague became endemic—that is, permanently established in European countries and even in England, though no doubt its activity may have been from time to time reinforced by fresh importations of the virus from the East, which is its proper habitat.

Successive epidemics took place in Europe in the fifteenth, sixteenth, and seventeenth centuries, until finally they culminated in the great plague of London in the year 1665, in which it is said that no less than seventy thousand persons succumbed to the disease, which was also widely prevalent through the surrounding country. Subsequent to this outbreak a subsidence of the pestilence happily took place. The plague disappeared entirely from England, and it is noticeable that as, on the whole, the epidemic wave took a direction from East to West and from Mediterranean countries northwards, so in subsiding it disappeared first

in the extreme West and receded gradually towards the East. Western countries became exempt, the only exception being a serious epidemic which occurred in the South of France, early in the eighteenth century, caused by the arrival of a plague-infected ship arriving at the port of Marseilles from Syria. In the countries bordering on the Levant, and even in Turkey, it nevertheless still continued to prevail up to the middle of the present century, at which period it again underwent a subsidence receding still farther eastwards towards central Asia. It is well known, however, that the disease has never become actually extinct. Epidemics of considerable severity affecting Asiatic countries have taken place from time to time, whilst it is certain that there are several separate and independent localities, principally in Asia, but also in Africa. in which plague is endemic—that is to say, constantly present, though of variable severity, just as scarlatina is with us. Of late years it has been showing signs of renewed activity; and a tendency to spread itself more generally over the habitable globe. This is sufficiently clearly shown by the serious outbreaks in Hong Kong in 1894, and in Bombay in 1896, by its appearance in the Australian Colonies, and finally by its invasion of Europe last year in Oporto, and recently so close at hand in Great Britain.

Under these circumstances, at once so ominous and alarming, it is gratifying to be able to note that the labours of scientific men have during the last few years materially increased our knowledge of the disease, especially as regards the nature of its virus, and of the various means by which it is transmitted from affected persons or animals to healthy individuals. The medical profession and the public have thus been placed in a much stronger position both as regards the measures to be taken to limit the spread of the disease, and if possible to eradicate it, not only by the adoption of intelligent precautions, but also possibly by the employment of protective and curative serums. The virus has in fact been shown to consist of a micro-organism or bacillus which was discovered six years ago by Kitasato, as the result of investigations made by him during the epidemic of Hong Kong, and his results have been confirmed

by researches carried out independently and practically simultaneously by Yersin. The bacillus of Kitasato has been shown beyond doubt to be the cause of plague. It is capable of cultivation outside the body, and certain of the lower animals, particularly rats, mice, rabbits, and Guinea pigs, when inoculated with pure cultures of the micro-organism, contract the disease in a characteristic form. I allude to the peculiar susceptibility of these animals to plague infection, because, as will be seen, they, and especially the rat tribe, play a very prominent rôle in the dissemination of the disease, and in its transmission to human beings, when once an outbreak occurs.

As the result of inquiries into the various modes by which the plague virus finds ingress into the human body a good deal of evidence has already been accumulated, going to show that these are principally two. One of these channels is through the skin by direct inoculation, as the result of which the glands next in anatomical relation become swollen and tender, thus forming the characteristic bubo. This appears to be the chief mode of entry, and produces the common or bubonic form of plague. The other channel is by inoculation of the mucous membrane of the nose, with secondary infection of the respiratory tract. This leads to plague pneumonia, not necessarily accompanied by buboes, and it is an especially fatal form of the disease, but fortunately of much less frequent occurrence than the preceding. Other mucous membranes may, no doubt, also become the seats of primary inoculation. This has certainly been shown to be true of the conjunctiva, but as regards the liability of the digestive tract much doubt and controversy still exist. Scientific observations on this point tend to show that whilst the disease may possibly find an entrance through the mucous membrane of the mouth and tonsils, it is highly probable that the remainder of the digestive tract very rarely, if at all, suffers primarily, In this respect, therefore, bubonic plague presents a marked contrast to typhoid fever and cholera, which, as is well known, disseminate themselves to a very large extent through the agency of contaminated water and articles of diet, the virus thus finding its way into the system through the ali-

mentary tract. To such well-known fevers as small-pox and measles plague also offers a very marked contrast with respect to the degree of its infectiousness. The diseases just mentioned spread with great freedom from person to person, often passing over considerable intervening spaces, whilst in the case of plague such a mode of distribution is practically non-existent.

Actual contact with infected materials and the definite inoculation of the skin or mucous surfaces seems to be a necessary condition for the production of this disease. This is a fact from which much consolation may be drawn, and I may add that it is well known that physicians and nurses in attendance on cases of plague are very seldom attacked when reasonable precautions are taken. In the absence of such precautions, however, of which the chief are strict cleanliness, and the judicious use of disinfectants, danger, no doubt, exists, inasmuch as the pus from discharging buboes and the sputum from cases of plague pneumonia are both of a highly infective character. In the transference of the virus from person to person there is no doubt that insects such as the common house-fly, but more particularly fleas, may act as intermediaries. A fly alighting on a patient whose skin or clothing may have been contaminated by sputum or pus and afterwards coming in contact with the skin of a healthy person may, acting as a vehicle, infect the latter. Whether the poison so conveyed is capable of penetrating the unbroken skin is not definitely known, but there is no doubt that a very minute or imperceptible abrasion is sufficient to enable the bacillus to effect an entrance into the system. The method by which fleas convey contagion is even more clearly understood, and is, in fact, closely analogous to the manner in which mosquitoes act as carriers of malarial poison. In the later stages of plague cases the bacilli abound in the blood, and when such patients are bitten by fleas the latter necessarily draw quantities of the micro-organisms into their digestive organs, and should any fleas infected in this way be transferred to healthy persons they inoculate them with great facility by means of the usual skin puncture.

I have already alluded to the great susceptibility of some

of the lower animals to plague, and of these it is beyond question that rats take first place in order of importance as vehicles of transmission of the disease, whilst the fleas which infest them co-operate in the way just described, not only in the diffusion of the infection amongst the rat tribe, but also in its transference to human beings. Rats are exceedingly prone to the disease; so much so, indeed, that it has been said that the plague is in reality a disease of these rodents, and one which infects man in the second instance only. It has been generally noticed that the occurrence of an epidemic in a city is preceded by an outbreak amongst the rats, and the bodies of such as have died of the plague are frequently found lying in the streets or in the basements of houses. It has also been observed that the first cases in a population occur precisely in those quarters in which the dead rats are discovered, and that the propagation of the epidemic from one town to another does not follow the route taken by fugitives from the human population, but rather that taken by the rats in their flight; for it would seem that, when the plague has extended widely amongst them, the healthy majority become panic-stricken, just as human beings do, and fly from the infected locality in large numbers; whilst in the meantime, the sick animals, losing their habitual dread of man, run through the streets in broad daylight, until they fall dead in the gutters or cellars.

Some ingenious investigations have been made in order to demonstrate that fleas are capable of transferring the infection from rat to rat, and from them to other species, and to human beings. A healthy, self-respecting rat, who makes his toilet regularly, carries very few fleas about him. The sick rat, on the other hand, being careless of his personal appearance, becomes absolutely covered by these insects, who, in seeking for nourishment in the usual way, naturally charge themselves with the plague bacilli. When the rats die, and their bodies become cold, the fleas take their departure, seeking food and warmth on the bodies of living animals, whom in turn they are almost certain to inoculate.

Professor Montenegro, of Madrid, to whose admirable

monograph on the subject I am indebted for many of the facts just mentioned, describes the following interesting experiments:—In the first two rats were placed in a cage—one ill with the plague, and having fleas on it, the other being healthy, and having none; the animals being separated by a wire partition. Shortly afterwards the sick rat died, and at the expiration of a few days the other became ill, and died also. The fleas were found to have abandoned the body of the first rat, and to have passed over to the second one; and their intestines were found, on examination, to be engorged with the plague bacilli. In a second experiment two rats were again placed in a cage, separated as before by a wire partition—one ill with plague, and the other healthy; but both without fleas. Shortly afterwards the sick rat died, but the other remained uninfected and healthy.

There can be little doubt, in fact, that the disease is diffused amongst rats mainly through the instrumentality of the fleas which desert the bodies of the dead animals and convey the infection to the living, and also that not only other animals, but human beings also may become infected by the same process. This explains to some extent the fact that the lower stories of buildings suffer most severely. It has been said that "the plague does not walk upstairs." Also that as rats are the vehicles of contagion, the disease frequently makes its first appearance in grain stores or other warehouses, in buildings in which rats abound, whilst on the contrary well constructed new buildings, to which the rodents have no access, remain free from the disease. Another useful observation may be mentioned, in connection with the disposal of rats found dead in the streets or elsewhere. Contact with those recently dead is highly dangerous, but when dead some time and quiet cold, that is, when the fleas have entirely disappeared, they may be touched or handled with impunity.

With a knowledge of these circumstances it is not surprising that the sanitary authorities of a district invaded or threatened with invasion by the plague invariably direct their attention to the extermination of rats, either as is done at present in Melbourne, by putting a price on the

head of every rat killed, or lately in Oporto by attempting their wholesale destruction by poisoning the sewers with strychnin. It is also evident that the duty devolves on the owners of houses or buildings infested by rats to take early and radical measures to prevent their ingress. All possible channels of approach should be carefully sought out, and stopped up, and, on the other hand, it is the plain duty of the municipal authorities to see that the main drains are kept staunch, so that the rats cannot escape from them. Many of the city houses are, I understand, plagued with rats, because the connection of the local house drains with the main sewer is not in a sound condition. It will be a relief to many to hear that our principal domestic pets, dogs and cats, are not very susceptible to plague infection. Nevertheless, as they are apt to be busy in the basement stories of houses they may readily act as carriers of infected fleas. Not only, therefore, must we keep our houses free from rats, and if possible from mice, but we must also rid them, as far as possible, from fleas, flies, and in fact from all varieties of insects.

I have already mentioned that epidemics of the disease are commonly preceded by outbreaks amongst rats and mice. This has been distinctly observed in Hong Kong, and in India, and I believe also in the Australian Colonies. In the latter it is the case, as I am informed, that whilst in Sydney there have been undoubted cases of plague, with several deaths, the disease in Melbourne has so far shown itself only amongst the rats. In Glasgow, on the other hand, a large number of rats have been killed in the infected area, and carefully examined for the plague bacillus, in all cases I understand up to the present with negative results. It is, of course, readily conceivable that owing to the importation of actual cases of plague or of infected clothing, this disease may affect human beings in the first instance, and that the rodents may be infected only subsequently, and this may possibly furnish an explanation of the slow progress of many epidemics in their early stages. In the great plague in London in 1665, it is recorded that in the first three months but three or four cases of the disease occurred, and nevertheless before the

close of the year many thousands of the inhabitants were destroyed. In other words, as long as the disease was confined to human beings, owing to the possibility of isolation, its progress was slow, but when the rats became affected it disseminated itself rapidly.

It is a truism to say that whenever plague makes its appearance in any given locality, it is of the most vital importance to the residents that the very earliest cases should be promptly recognised, and at once isolated. As the disease has, however, not been seen in these countries for more than two centuries, it is obvious that medical men are thus placed in a position of great responsibility, and also of great difficulty. This will be more manifest when I mention that, in spite of the strict supervision which is being exercised over arrivals at the Port of Dublin, if this epidemic should reach our shores, the first cases are just as likely to be met with in the purlieus of the city, or in the public dispensaries, as anywhere else. Medical men will, therefore, be called upon to diagnosticate cases of a disease of which they have had no previous experience. Under these circumstances, I feel that I cannot occupy your time better than by devoting the remainder of my observations to a brief clinical account of this terrible disease. Before doing so, however, it is but just that reference should be made to the public spirit shown by the Board of Management of the Cork-street Fever Hospital in sending their Senior Resident Medical Officer, Dr. Marshall Day, to Glasgow, for the purpose of enabling him to investigate the cases there on the spot, and of informing himself, by personal observation, as to the treatment employed in hospital, and as to the various measures adopted for the safety of the community at large. This action of the Cork-street hospital authorities, which, in my opinion, might be imitated with great advantage by our city and suburban sanitary authorities, furnishes merely an additional instance of the vigilant attention which they have so constantly exercised in safeguarding the interests of the public.

Passing to a review of the main clinical and pathological data before us—a review which, under the limitations of time at my disposal, must necessarily be of a brief and

sketchy character—I may premise that several distinct types or varieties of the disease are recognised.

The most characteristic of these is the true bubonic form in which the primary inoculation takes place through the skin, chiefly of the extremities, and which should be comparatively easy of recognition, inasmuch as the primary bubo or glandular swelling is always a prominent feature. The bubo generally makes its appearance early, most commonly in the groin or armpit, but also in the neck, and occasionally it is said even in the popliteal space or at the bend of the elbow. The situation of the bubo will, of course, depend on the site of the initial cutaneous inoculation; thus when this occurs in the lower extremity the bubo forms in the groin, and when in the upper in the armpit. At the locus of inoculation, however, no changes take place, and in most instances it is not discoverable. The bubo varies in size, and is, as a rule, extremely tender and painful. It may subsequently enlarge greatly, so as to form a doughy and bulky swelling, which, if the patient lives for seven or eight days, either begins to resolve or may pass on to suppuration or sloughing. The lymph and blood in the buboes are crowded with plague bacilli, and in suspected cases a small quantity of the contents should be drawn off by means of a sterilised syringe for bacteriological examination.

Second in order of importance to the bubonic form stands plague pneumonia, in which the primary infection takes place, probably through the nasal mucous membrane and respiratory tract. This form is particularly dangerous, not alone because it is almost invariably fatal, but also because the clinical symptoms are not typical of ordinary plague, in so far as the primary bubonic swelling is altogether absent. The sputum from such cases is highly infective. It has been shown to contain an almost pure culture of the plague bacilli, and may contaminate handkerchiefs, clothing, bedding, and other surroundings of the patient. The pneumonia is not of the croupous type, and the sputum, though it may be tinged with blood, has not the viscid, rusty character present in that disease. It is rather of the disseminated or broncho-pneumonic form, and is accom-

panied by symptoms generally of great gravity and altogether out of proportion to the amount of lung mischief which can be recognised. The symptoms rapidly become worse, the patient becomes delirious, there is gradual failure of the heart's action, with or without coma, and death ends the scene on the fourth or fifth day if not earlier. In suspected cases of this variety the diagnosis may be made certain by an examination of the sputum for bacilli, and, if necessary, by control experiments on Guinea pigs.

The so-called septicæmic variety of plague is also a virulent type in which the superficial glands show no special enlargement and the characteristic bubo is therefore also absent. In this form of the disease the bacilli invade the blood in large numbers and can easily be detected in it. It is excessively severe in its onset, and rapid in its course. The victim suffers from extreme nervous prostration, and frequently from repeated hæmorrhages. Delirium, stupor, and coma follow quickly upon one another, and the patient dies on the first, second, or third day. It will not have escaped notice that as glandular enlargements are absent both in this and in the pneumonic varieties of the disease the term bubonic plague as a general description is really a misnomer.

In contrast with the foregoing severe and deadly forms it must be mentioned that mild or benign attacks are by no means uncommon during epidemics. These are usually of the bubonic variety, and are known as Ambulant or Benign Plague, or Pestis minor. In these there is very little constitutional disturbance, and the principal symptom is the presence of the bubo which may either rapidly resolve, or become chronic, or end by the formation of an abscess. As persons affected in this way are generally able to move about they constitute a great source of danger to the community, as they may very readily spread the contagion to others.

In giving the foregoing sketch of the principal varieties of the pestilence I have freely availed myself of the excellent article on "Plague," by Professor Simpson, which appeared in the September of last year in the pages of the *British Medical Journal*, and in the endeavour to complete

the clinical picture which I have essayed to place before you I cannot do better than to quote from his classical description an account of the general symptoms, premising that after an incubation period varying from two to ten days, the onset is generally sudden with shivering, followed by fever, &c. To use Professor Simpson's own words:—"There are certain symptoms common to all forms of plague of the severe type. These are the peculiar expression of the face, the halting speech, and the appearance of the tongue. The countenance generally pourtrays in the early stages anxiety and distress, later resignation and apathy; the eyes are red and congested, and the patient has the appearance of being under the influence of a hypnotic, and yet unable to sleep, the eyes remaining wide open. Unless delirious, when the face is flushed and the physiognomy wild, the expression in advanced cases is apathetic or vacant, masking the approaching dissolution. The speech is peculiarly hesitating and broken, being more or less staccato in character, each syllable being pronounced by itself in a thick and husky tone like that of a drunken man, or only half the sentence may be spoken, the rest being forgotten. The tongue is early coated with a creamy white fur, except the tip and edges, which are clean and red; later it is dry, covered with a yellowish or whitish-brown fur, the tip and edges remaining red and irritable.

"The characteristic physiognomy, speech, and tongue, with the presence of a bubo, are unmistakable signs of plague. The general symptoms of a typical case are shivering, high fever, nausea, vomiting, intense general or frontal headache, painful and tender bubo, staggering gait, suffused and congested eyes, anxious expression, coated tongue, except on tip and edges, restlessness with uncontrollable desire to wander aimless to some distant locality, dyspnœa, increasing disturbance of the nervous and circulatory systems, manifesting itself in high and noisy delirium or coma, and in gradual or sudden failure of the heart's action. The pulse, which is quite soft and easily compressible at the onset, becomes intermittent and dicrotic and often difficult to count, and there is a tendency to collapse, the patient's extremities becoming cold and

clammy. After the sixth or seventh day the patient's chances of recovery are much increased, and the temperature usually reaches the normal about the tenth day."

There are several other matters which a desire to place the subject before you in a complete form would naturally prompt me to discuss. The principal amongst these are the preventive measures to be adopted by the public authorities as well as by private persons, and also the utility likely to be derived from the use of immunised serums both as prophylactic agents and even as curative remedies. These are subjects which, if dealt with at all, would require full treatment, but even a lecturer must exercise the quality of mercy.

ART. XVII.—*Observations on a Successful Case of Cæsarean Section.*[a] By GEORGE COLE-BAKER, M.D., Dublin Univ.; Ex-Assistant Master Coombe Hospital; Ex-University Examiner in Midwifery and Gynæcology to Dublin University.

WHEN I determined to bring a case of Cæsarean section before this Section of the Academy of Medicine I had an idea that the subject was one which had been frequently before it already. On looking over the "Transactions," however, I find my idea was erroneous, as only two papers on Cæsarean section have been read before you—the first by Dr. Macan in January, 1890, when he put on record his first case, which was also the first operation of the kind performed in the Rotunda Hospital; the second by Dr. Kidd in May last. I, therefore, now beg to lay before you some facts in connection with a case of this kind, and trust that they may prove of interest to you, for Cæsarean section is a subject that is of the deepest importance and interest, to all obstetricians, at any rate.

As far as I can ascertain this operation, when performed for the first time upon any given patient, has been performed upon women parturient for the first time (I mean at term), or upon women whose previous pregnancies had

[a] Read before the Section of Obstetrics, Royal Academy of Medicine in Ireland, Friday, November 24, 1899.

been terminated by craniotomy and mutilation of their infants; but in my case matters were very different indeed, and in this respect it is, I fancy, unique; for though it was my maiden effort at the performance of Cæsarean section it was in no way my patient's maiden effort (how could it be? you will ask) at parturition in any sense of the word, as she was parturient for no less than the eleventh time. Murdoch Cameron (Glasgow) performed it on a 9-para who had had eight craniotomies.[a]

The history of her previous confinements, as far as I have been able to ascertain it, is as follows:—

1. In Coombe Hospital, 7th March, 1885, the mother being nineteen and a half years old, and only nine months and a fortnight married. The child was delivered alive by forceps after the second stage of labour had lasted eight hours. It weighed 6 lbs. 4 oz., and died in four hours. The placenta was removed manually.

2. In Coombe Hospital, 1st April, 1886 (interval only a trifle over twelve months). Head presented. Conjugate of brim ascertained to be $2\frac{3}{4}$ inches. When the patient had been fifty-six hours in labour forceps were applied, but failed. Version was then performed with very great difficulty, but the after-coming head could not be extracted till perforation and crushing had been resorted to.

3. At own house, on 13th March, 1887, the patient was delivered by a nurse (Mrs. Gunn) of a living female child, which was very small, though the patient thinks she had arrived at full term. This child is still living, and, though small and fragile for her age, seems very smart and intellectual.

4. At own home, on 29th September, 1888, she was delivered (the patient states) with forceps by Dr. S. M. Thompson of a living female infant, still alive and robust in health. Patient believes she had arrived at term in this case also.

5. At own home, on an unknown date, delivered of a still-born child by forceps by same doctor (the patient states) as in last case.

6. At own home; date unknown; child still-born; had, she believes, come to term; forgets the details of the confinement.

7. 28th June, 1892, attended at own home by a student of the Coombe Hospital, whose notes are:—"Breech presentation; patient pregnant eight months only; is supposed to have a small conjugate; there was no delay in the labour; the child lived for only twenty minutes."

[a] British Medical Journal, January 1, 1898.

8. 29th April, 1893; attended as in last labour. Notes as follows:—"Born before my arrival; a male; alive." This child is still living, and fairly robust. I saw him on the 16th September last, but, as he had measles, merely glanced at him and left his neighbourhood at once.

9. 4th February, 1895; attended as in 7 and 8. Notes as follows:—"First stage ten hours; second stage two hours; lived twenty minutes only."

10. In the Coombe Hospital on 2nd September, 1897. Forceps tried and failed; version was performed. After-coming head undelivered at end of two and a half hours; occiput was then perforated and head crushed and extracted.

Here is, indeed, a remarkable history.

First, fourth, and fifth pregnancies terminated by forceps. Fifth dead. First died in four hours. Fourth now eleven years old.

Second and tenth pregnancies—Failure of forceps; version, perforation, and craniotomy of after-coming head.

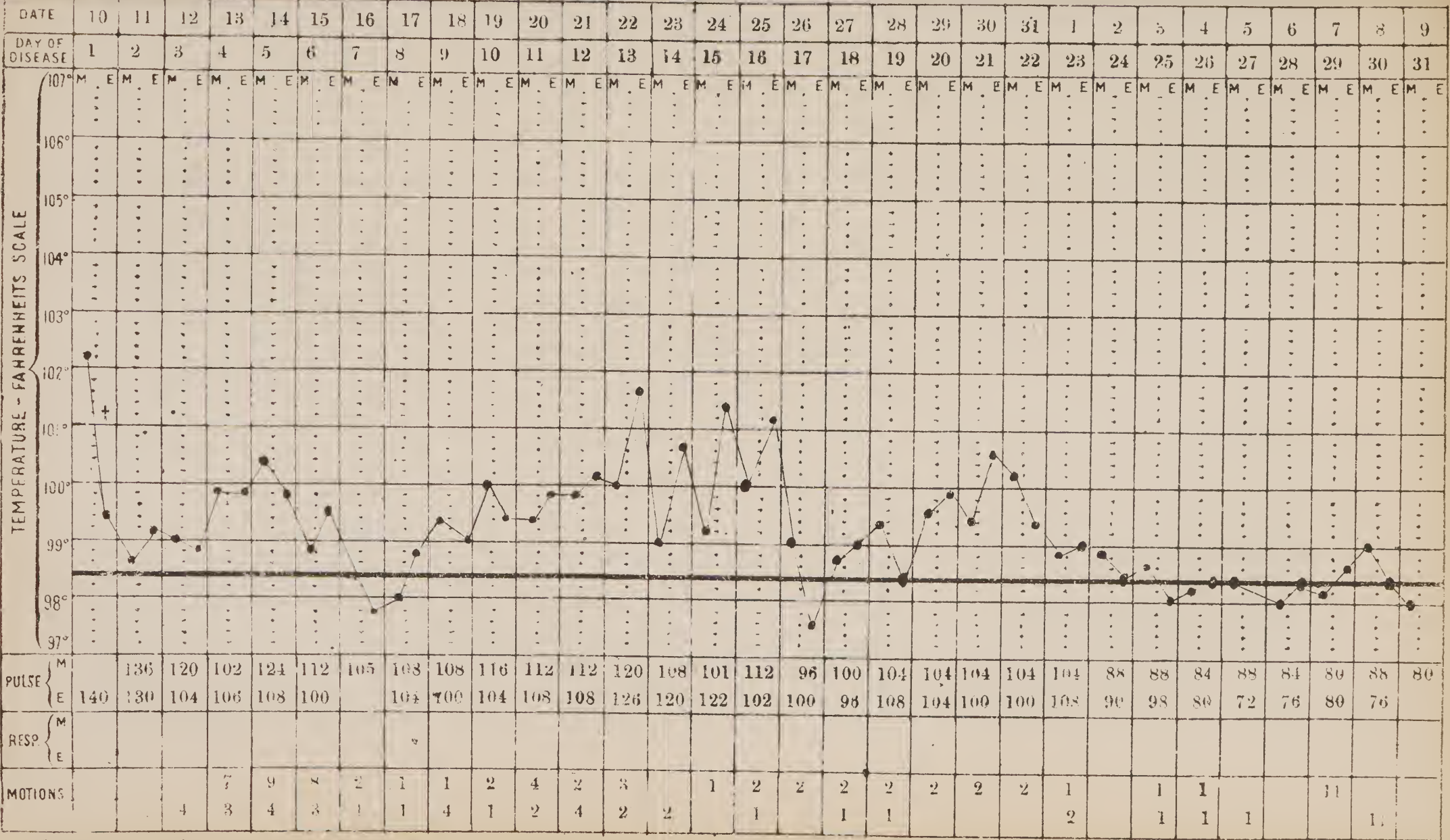
Third, sixth, seventh, eighth, and ninth terminated naturally—the third and eighth being now respectively thirteen and a half and six and a half years old, the sixth still-born, the seventh and ninth dying twenty minutes after birth.

The eleventh—Cæsarean section. Mother and child are now both well.

I shall not trouble you with the indications laid down in the various text-books for the performance of this operation, as they are given at length by Dr. Macan and Dr. Kidd in their communications already alluded to on this subject.

The special indications upon which I relied were:—(1) The actual facts of the tenth delivery, which were before me; (2) the patient's story of nine other deliveries, six of which had in one way or another resulted disastrously for the infant; (3) that the patient had been forty hours—5 p.m. on 8th August to 9 a.m. on 10th August—in labour, had a rising temperature and pulse, with thinning out of the lower uterine segment, and that the infant's heart-sounds were increasing in frequency; (4) my firm conviction, in which Dr. Smyly supported me, that the woman would not deliver herself, as there were no signs of the head moulding; (5) that my

Sept., 1899.



DATE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9
DAY OF DISEASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
PULSE M		136	120	102	124	112	105	108	108	116	112	112	120	108	101	112	96	100	104	104	104	104	104	88	88	84	88	84	80	88	80
PULSE E	140	130	104	106	108	100		104	100	104	108	108	126	120	122	102	100	96	108	104	100	100	108	90	98	80	72	76	80	76	
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			4	3	4	3	1	1	4	1	2	4	2	2		1		1	1				2		1	1	1			1	

Temperature taken at 9 a.m. and 9 p.m.

choice lay between craniotomy and Cæsarean section (version, if possible at all, being put out of court by the history of the tenth delivery). (I did not then know about the second delivery.)

Here, too, perhaps I might mention that observations go to show that in the great majority of cases (though it certainly was not so in this case) a woman's second labour is, if I may call it so, the "one of selection," as the conditions are then more favourable for safe and rapid delivery than at any other labour, whilst the tendency is for each succeeding labour after the second to be attended with more and more dystochia as they increase in number.

The details of the case are as follow :—

Case.—Mrs. C. R., aged thirty-four, was brought into the Coombe by some students of the hospital (who had seen her at her own home) at 9 a.m. on Wednesday, 9th August. She was then in labour, having had pains since 5 p.m. on the previous evening.

In the temporary absence of Dr. Kidd (Master of the Hospital) Dr. Neill (Assistant Master) asked me to look at the patient for him on the date of her admission, and I did so about 12 noon. The patient was then in a good state—pulse and temperature normal, tongue fairly clean, pains occurring regularly, but not very violent; no symptom of impending rupture; taking fair amount of nourishment; fœtal heart normal; membranes ruptured before admission; os dilated only to about size of half-a-crown; head not engaged in brim. I therefore recommended that we should leave the case to nature, at any rate for the present.

No change occurred till 6 a.m. the following morning, when pulse and temperature of mother began to rise, fœtal heart to accelerate, caput commencing to form, retraction ring becoming marked, uterus tightly contracted down on the fœtus, *membranes ruptured for twenty-four hours at least*, if not much longer. Feeling that the situation was grave, I asked Dr. Smyly to see her with me, which he very kindly did at 9 a.m. We came to the conclusion that my choice lay between craniotomy and Cæsarean section. I chose the latter, and operated at 11 a.m., Dr. Smyly assisting me.

Of the actual operation I need only say that I incised the uterus before lifting it out through the abdominal wound, and had the ill luck to strike the placental site in doing so, so that for a few moments the hæmorrhage was distinctly "smart." Having increased my uterine incision with scissors I tried to get hold of

the child's feet, and after some little delay did so, and extracted the child. There was some difficulty in extracting the head, but I do not think that from the time the uterus was first incised until it was empty was more than 90 seconds. Dr. Smyly now at once controlled the hæmorrhage for me by manual compression.

As soon as the child was extracted the uterus contracted well and permanently, thereby at once expelling the placenta through the incision. I thoroughly wiped out the uterine cavity with sterilised gauze sponges, and then closed the uterine wound with interrupted silk ligatures passed down to, but not including, the uterine mucous membrane. The uterus was then returned to the abdominal cavity, and the latter closed with silkworm-gut sutures. Save that the patient had two severe attacks of diarrhœa, lasting four days each, she made a good recovery, and left the hospital within the month from the day of operation, her temperature never but once rising above 100·8°, and then only to 101·6°. From the day after the operation till she left the hospital she nursed her infant, and, except for the first three days, her milk was the infant's only sustenance.

The infant was asphyxiated when extracted, but, thanks to Dr. Fleming's skilful treatment, was very soon restored, and is to-day (21st November, 1899) as fine an infant as ever I saw for its age. The abdominal sutures were removed on the twelfth day, when union was complete. From the twelfth to the twenty-ninth day there was a purulent discharge from the vagina, which was at first slightly fœtid, so I washed out the uterus each day with creolin solution, and had the vagina douched out as well morning and evening. The patient got up on the twenty-eighth day after the operation, and left hospital on the thirtieth day.

The anæsthetic was given for me by Dr. Hughes, and Dr. Smyly most kindly assisted me, while Drs. Fleming, T. E. Gordon, and Neill also stood by. I thank them one and all very heartily.

The day before the patient left the hospital I measured her pelvis with Skutsch's pelvimeter, and found the c. v. to be 6|cms. (2·4 inches) only. This would seem to tally with Dr. Mason's measurement in April, 1886, the slight discrepancy (·35 of an inch) between his measurement and mine being, I think, accounted for by the greater accuracy with which internal pelvimetry can be carried out at the present day, thanks to Skutsch's pelvimeter; but whether this be so or not, it is evident that the woman's pelvis was contracted to what is

known as the 3rd degree—*i.e.*, had a "true conjugate" of between 2 and 3 inches.

It seems hard to believe that a woman with such a pelvis could have living children, per *vias naturales*, and that, too, unaided, as appears to have been the case at her 3rd and 8th labours; but the explanation appears to be in the fact that her 3rd labour occurred in little over 11 months after her 2nd, and her 8th in 10 months to the day after her 7th labour, so it is fair to assume that she had not come to full term at the 3rd and 8th labours. The 4th labour, however, where the patient was delivered with forceps by Dr. Thompson in 1888 of a child that is still alive, did not occur for 18 months after the 3rd, and cannot be got over in this way.

I have already stated that I believed my choice in dealing with this case lay between craniotomy and Cæsarean section. As to the former, I can best show my reason for rejecting it by telling you that on the day after the operation one of the nurses (who was an Irish woman, I take it) brought me the infant to look at, with the remark—"Shure, doctor, it would have been murder to kill such a grand child as that." Well, I believe it would, as I do, too, that the immediate risks, at all events, to the mother are every bit as serious where craniotomy is resorted to as when Cæsarean section is performed. But, it may be argued, symphyseotomy was still open to you. I do not admit it. The greatest gain in the c. v. that can be hoped for is four-fifths of an inch, and that only when the pubic bones have been separated $3\frac{1}{2}$ inches—a dangerous extent. This gain would only have given me a total c. v. of 3·2 inches, and I do not believe a 9 lb. child could have been extracted alive through such a diameter, whilst the mother would have been, to no purpose, subjected to an operation which, in my opinion, is no whit less risky for her in both its immediate and ultimate consequences than is Cæsarean section. Howard Kelly, in his "Operative Gynæcology," makes the statement that—"Where the c. v. is under 7 cms. symphyseotomy is a hazardous operation, unless the child's head is small." The conjugate in my case was only 6 cms., while the child's head was large, as ascertained by palpation. The *British Medical Journal* of Jan. 7th this year has a short note as follows:—

"Charles, in L'Obstetrique, compares Cæsarean section with symphyseotomy—taking into consideration (1) 100 cases of Cæsarean section by Leopold; (2) 90 cases of symphyseotomy by Pinard; (3) his own results with both operations—and his conclusion is, symphyseotomy is *not* less dangerous, as is commonly supposed, than Cæsarean section." He adds, "At the Dresden Hospital a c. v. of $5\frac{1}{2}$ to $6\frac{1}{2}$ cms. is regarded as an absolute indication for Cæsarean section."

Also, Washburn (*Boston Medical and Surgical Journal*, 30th June, 1898) says:—"With proper asepsis the mortality from Cæsarean section should not exceed 5 per cent. He states, too, that Cæsarean section is a better operation than symphyseotomy—(1) Because it is easier and quicker to do, no special instruments are needed, only soft parts are injured, the field of operation is all in view, and the hæmorrhage is easier to control; besides, to complete delivery, the forceps is generally needed and lacerations are the result. (2) In Cæsarean section the convalescence is shorter, and there is no fear of a loose pelvis."

Dr. Jardine, of Glasgow, in the *B. M. J.* for May 21, 1898, prefers Cæsarean section to craniotomy.

So much in support of the operation I elected to perform in this case.

At the discussion on Dr. Kidd's paper on this subject in May last, Dr. Smyly told you that every step of the operation, though apparently a simple one, is the subject of controversy. I shall discuss one point only—viz., the suturing of the uterine incision. The objects to be arrived at if possible are—(1) Speedy and strong union. (2) Freedom from adhesion of the uterus to the abdominal parietes or viscera. Professor Everke (*Wien. med. Woch.*, No. 51, 1898), who has performed Sänger's conservative Cæsarean section 25 times with 18 recoveries, five of whom have again become pregnant, speaking of this step—that is, the suture of the uterus—calls it the "essential" feature of the operation, inasmuch as speedy union of the uterine wound is of the first importance as a guard against secondary infection from the uterine cavity. He advocates a "longitudinal" not a "transverse" incision, and three layers of sutures—(1) A deep layer, on which he lays special stress, with the ends brought out *into the uterine cavity and tied*

there against the decidua. How beyond a certain point this is to be accomplished I do not quite see. (2) A middle and then a more superficial set passed into the muscular coat and tied on the surface of the uterus. He states that the deep set of sutures ensures a much firmer cicatrix than if they were dispensed with, and this is important in the case of a subsequent pregnancy. My own opinion is that this deep set of sutures is most desirable, and for them I should use medium (interrupted) silk, including in them a certain amount of muscle as well as decidua to give them a good hold. I should then put in a set of strong interrupted silk sutures, including the *whole* of the muscular wall of the uterus, but muscle only. Finally, I would bring the peritoneum together with a continuous fine catgut ligature, in such a way as to cover over and completely shut off from the peritoneal cavity all the silk sutures in the muscular wall.

My object in doing so is this, that I fancy such a procedure minimises the possibility of adhesions forming between the uterus and abdominal wall or viscera, which is, as I have already stated, an end desirable of attainment. With every movement of respiration a certain amount of friction takes place between the anterior uterine wall in the puerperal state and the abdominal parietes; and if we have strong silk, or, worse still, silkworm-gut sutures in the uterine incision, this friction must be very much increased by their presence, and quite sufficiently so to irritate the peritoneum, against which they rub, so as to cause sufficient effusion to bring about adhesions. Catgut (and in the form of a continuous suture, as it will have only two knots) will cause less irritation than any other form of suture, and therefore diminish the chances of adhesions. This, I find, is practically what Lebedeff and J. Veit recommend. Winckel says the latter has proved that the peritoneal surfaces often fail to unite.

Another measure to accomplish this end—viz., "drawing down the omentum over the wound in the uterus," as recommended by Marcy (*New York Medical Journal*, July 16, 1898), seems to commend itself; for even if an adhesion with the omentum do supervene, it is not so undesirable as one with the abdominal wall in the light of a subsequent pregnancy. The catgut suture in the peritoneum will, of

course, absorb, but it will not absorb before union has taken place, if it is going to take place at all. Dr. Herbert Spencer mentions a danger as the result of Cæsarean section that seems to me to be a very far-fetched one, indeed. He alleges that "the sutures from the uterine wound may work their way into the bladder and there form a nucleus for calculi." I should be glad to know if this is the experience of any Member of the Academy.

The majority of infants brought into the world by Cæsarean section are more or less asphyxiated, and require to have artificial respiration performed. I believe Schultze's method to be a long way the most efficacious, and by his method many an infant has been saved that I doubt would have been saved in any other way. There are dangers in the process, I admit, many and grave. One—a very real one—you will not find in any text-book that I know of. It was thus described by a co-examinee of mine when I was a candidate for the L. M. of the Rotunda Hospital. When asked to enumerate the dangers to an infant from Schultze's method he replied, "You might lose your hoult, and it might shlip from you."

However, it has been my good fortune so far never to have any bad results whatever from the proceeding, not even after more than two hours of it, as I have performed it myself for that time successfully, and hard work it is, too, with a heavy child.

I omitted to mention that the infant in my case developed unilateral mastitis when eighteen days old. An attempt to abort suppuration was made by applying belladonna and glycerine, but was a failure; so on the 22nd day I had a bread poultice made with boiling 1 per cent. carbolic acid solution applied continually for 24 hours. When the abscess "pointed," I incised it and squeezed out about an ounce of pus. Lint steeped in boric lotion was applied, and all signs of inflammation had disappeared in four days.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Theory and Practice of Hygiene (Notter and Firth). By J. Lane Notter, M.A., M.D. (Dub.), and W. H. Horrocks, M.B., B.Sc. (Lond.). Second Edition. London: J. & A. Churchill. 1900. 8vo. Pp. 1085.

The history of this important work is briefly told. The late Dr. E. A. Parkes many years ago wrote a standard work on Hygiene. It was subsequently enlarged and edited by the late Professor de Chaumont. A third edition came out a few years ago under the editorship of Dr. J. Lane Notter, a distinguished graduate in medicine and diplomate in Public Health of the University of Dublin, now the Professor of Hygiene in the Army Medical School, Netley, and Colonel in the Royal Army Medical Corps.

So rapid has been the advance of Preventive Medicine in recent years that it became necessary in 1896 to rewrite the book from beginning to end. Accordingly Professor Notter called to his aid Major Firth, R.A.M.C., and they conjointly prepared a new work on the Theory and Practice of Hygiene, a work which was at once accepted as a standard authority. And now, four years later, a second edition has been called for. On this occasion Professor Notter has had as a colleague Major Horrocks, R.A.M.C., Assistant Professor of Hygiene in the Army Medical School, Netley, in succession to Major Firth, now absent on duty in India.

The sections of the work which have been most altered and brought up to date are those relating to water supplies, sewage disposal, immunity, disinfection, and infective diseases. In their preface the authors point out how immensely the literature relating to these topics has increased within the last few years. They have endeavoured successfully to summarise our knowledge on these and the other matters of which the volume treats.

The difficult subject of bacteriological examination of water has been ably handled towards the end of the first chapter on Water, its properties, supply, purification, and examination. To Miss Triscott, Dr. Lane Notter accords his thanks for the admirable manner in which she has copied a series of drawings illustrating the bacteriology of water, and for the "infinite pains" she has taken in preparing the plates in which these drawings are reproduced.

We notice with satisfaction the full bibliographies which are appended to each chapter. It was a matter for complaint in regard to the first edition that sources of information were not always acknowledged, but the bibliographical references in the present edition leave nothing to be desired.

Our review of this really fine work was so exhaustive on a former occasion that it is only necessary now to record the appearance of a second edition within the short space of four years, and to commend the volume to all students or practitioners of Preventive Medicine.

Diseases of the Genito-Urinary System. By EUGENE FULLER, M.D.; Professor of Genito-Urinary and Venereal Diseases in the New York Post-Graduate Medical School; Visiting Genito-Urinary Surgeon to the New York Post-Graduate Hospital; Visiting Surgeon on the Genito-Urinary Division of the New York City (Charity) Hospital; Professor of Genito-Urinary and Venereal Diseases in the University of Vermont, &c. London and New York: Macmillan & Co., Ltd. 1900.

ALTHOUGH we seem to have a plethora of surgical records just now, some excellent, some fair, but a great many scarcely worth the reviewer's trouble, most of which are written by men whose experience is limited, and whose practice affords them plenty of spare time to write what they are pleased to style "Surgeries of Reference for busy Practitioners," or "Treatises" on various topics, still there is always room for a really good treatise on any surgical subject.

The Americans seem to be the most prolific in the field

of surgical literature, volume after volume emanating from their press, bound in such a manner as to take the eye, but whose contents are very poor indeed. The present volume is an exception. It is written by one who is a master of his subject, and though there are some chapters not quite up to the standard we should wish, and some points which might be a little more accurate, still we have nothing but praise for the rest of the book. There are a few points to which we would like to direct attention:—"In the absence of previous history it may be impossible to differentiate between a strangulated inguinal hernia and an inflammatory hydrocele of the cord, such as might depend on torsion of the cord, or on phlebitis of the pampiniform plexus." Surely the general constitutional condition and the nature of the vomiting in these two conditions are quite different, for in strangulated hernia there is collapse, and the vomiting is "gushing" and continuous, no matter whether food or liquid is taken, whereas in the other condition there is general pyrexia, and the vomiting is not "gushing," and ceases when the stomach is emptied, and liquid and food are withheld.

Again, the author uses the term "Incarcerated Hernia" rather vaguely. He describes it as "a painful inflammatory condition," "the testicle and cord are external to the tumour, which is also opaque, and may be somewhat tympanitic in case it contains bowel."

We can scarcely understand why the author advocates the injection method in treating hydrocele when the more speedy and less painful method of cutting down on it, and performing some other radical cure, is so free from danger at the present day.

Similarly, we fail to see why the author should advocate the subcutaneous method of treating varicocele when the open method is so safe; but he says other men do not adopt this method because the technique is not understood. This is surely a sweeping statement, and one which savours a good deal of egotism. In the article on extravasation of urine we should like to see the course the urine takes more fully and accurately described, and the reasons for this set forth. Then again, why does the author recommend

washing out a purulent gonorrhœal arthritis through two canulæ instead of laying the joint freely open, and thus making certain of thoroughly cleansing the cavity of septic material? These few points only slightly mar an otherwise excellent treatise. The remaining chapters are pregnant with practical information, and include a well-written and important chapter on diseases of the seminal vesicles, a subject not fully treated in other text-books.

In conclusion, we strongly recommend the perusal of this work. The text is clear, and the illustrations good.

A Synopsis of the British Pharmacopœia, 1898. Compiled by H. Wippell Gadd (Member of the Pharmaceutical Society), with Analytical Notes and Suggested Standards by C. G. Moor, M.A., Cantab.; F.I.C. (Public Analyst for the City of Exeter). Fifth Edition. London: Baillière, Tindall & Cox. 1900. Pp. 223.

Over 6,000 copies of this excellent little book are said to have been sold within two years of its publication. It has, therefore, evidently met a want. We have already expressed a favourable view of previous editions. It only remains to notice the appearance of the fifth edition.

In their preface the authors state that, in giving the total solids in the various preparations, the sign "%" signifies parts in 100 fluid parts. The latest published researches on drugs and galenicals have been consulted in the compilation of the work, the sources of information being acknowledged in the text of the Synopsis.

The size of the booklet is $2\frac{1}{2} \times 4\frac{1}{4}$ inches, and it costs one shilling net.

A Practical Handbook on the Muscular Anomalies of the Eye. By Howard F. Hansell, A.M., M.D.; and Wendell Reber, M.D. With twenty-eight illustrations and one plate. Philadelphia: P. Blackiston, Son & Co. Cr. 8vo. Pp. 182.

The aim of the authors in writing this book has been to present to beginners in ophthalmic work the principal

facts in the diagnosis and treatment of abnormal states of the eye muscles. The subject-matter is an elaboration of a short series of lectures delivered by them at the Philadelphia Polyclinic. Without giving the volume the proportions of a book of reference, they endeavoured to omit no important data that had been recognised as trustworthy, and they described only the methods that had stood the test of their own experience. The book is divided into four parts, containing respectively — I. Anatomy and Physiology. II. Structural Anomalies. III. Functional Anomalies. IV. Operations on the Muscles.

The authors have succeeded in making fairly simple and intelligible the abstruse points with which they had at times to deal, and they have wisely not entered into the less known and more debatable ground, and have avoided as far as possible controversial matter.

The book is well got up, and the publishers have done their part of the work satisfactorily, but the illustrations on pp. 172 and 173 do not seem to be in accord as to the position of the sutures, and certainly we hope no operator will be induced to bring his sutures out "as far as the middle of the cornea," as advised in their account of the operation for capsular advancement. These, however, are trifling errors of expression, and do not prevent us from strongly recommending this little book to anyone wishing for a short, readable account of the subject with which it deals.

Annals of Gynecology and Pediatry. Boston; Dec., 1899, and Jan. and Feb., 1900.

THIS is a useful journal. Dr. Jay Schamberg contributes some original work on the lymphatic glands in scarlet fever. He tabulates the results of an examination of the superficial glands in 100 cases of this disease. From these tables it is seen that the various lymphatic glands are enlarged in the following proportion of cases:—

Inguinal glands enlarged—(*a*) pea-sized, 23 per cent.; (*b*) bean-sized, 77 per cent.; axillary, 96 per cent.; maxillary, 95 per cent.; posterior cervical, 77 per cent.; anterior cervi-

cal, 44 per cent.; sub-maxillary, 36 per cent.; epitrochlear, 26 per cent.; sub-lingual, 25 per cent.

Various other papers are of interest; chiefly, however, reprints of papers read at Philadelphia and Detroit Societies.

Practical Gynæcology. A Handbook of the Diseases of Women. By Heywood Smith, M.A., M.D. Oxon. Second Edition, revised and enlarged. London: Henry J. Glaisher. 1900. Crown 8vo. Pp. xxiv. & 219, with 21 illustrations.

This work has reached its second edition. The author writes in the preface:—"It is too often that a handbook grows in subsequent editions, so that it loses its original intention; but I have striven to keep this book as such within practical limits." With this object in view he has omitted many verbs, the majority of articles, and most modern teaching.

The Medical Diseases of Childhood. By Nathan Oppenheim, A.B., M.D.; Attending Physician to the Children's Department of Mount Sinai Hospital Dispensary, New York. With 101 original illustrations and 19 charts. London: Macmillan & Co. Pp. 638.

This is a most excellent book. Of the recent text-books on Diseases of Children in the past few years this volume of Dr. Oppenheim's is a worthy rival. It is strikingly original, and is very refreshing in its narrative and style. The opinions expressed are quite up to the most recent established facts, and the pathology and treatment are alike handled with marked skill. As a work of reference on these obscure diseases, few volumes will be read with greater interest and pleasure, and practitioners will be rewarded on reference to most points contained in it. There are many beautiful photo-micrographs and illustrations, and the binding, printing, and paper are splendid.

Dr. Oppenheim is to be congratulated upon its successful issue, and may be assured of its at once taking a very high place among the best European works on Diseases of Children.

Its clear and brief descriptions are attractive. In the next edition we hope to find a description of Posterior Basal Meningitis, which by some accident has been omitted.

Burdett's Official Nursing Directory, 1900. Containing an outline of the Principal Laws affecting Nurses, particulars of Nurse Training Schools in the United Kingdom and Abroad, Nursing Institutions, &c., and a Directory of Nurses. Compiled and Edited, with the assistance of a small Committee of Medical Men and Matrons, by Sir HENRY BURDETT, K.C.B. London: The Scientific Press. 1900. 8vo. Pp. 704.

WE are glad to find this year's issue of Sir Henry Burdett's excellent and useful directory again increased in size, and to see that over 400 more names have been added to the list. The information as to training schools is very complete, and leaves little to be desired, but we would earnestly recommend the many nurses who still withhold their names to send them in without further delay. Doctors and matrons turn with confidence to this carefully authenticated source of information, and fully qualified nurses will lose by not appearing in its pages.

Burdett's Hospitals and Charities, 1900. Being the Year Book of Philanthropy and the Hospital Annual. By SIR HENRY BURDETT, K.C.B. London: The Scientific Press. 1900. 8vo. Pp. 1051.

WE were promised this volume in March, but it was not published until June. This is one reason why there are so many errors in the *personnel* of the Dublin Hospitals, with which we, of course, are chiefly interested. Another reason for inaccuracies of this kind is the carelessness which leads the responsible officers of several of the hospitals to omit revision of the entries of their respective institutions. It is a stupid policy on the part of a charity to neglect to give full, accurate, and recent information to the public through the medium of Sir Henry Burdett's useful Hospital Annual. In the preface the author expresses his apprehension that

the war in South Africa may cause home charities, and especially hospitals, to suffer severe loss. He properly observes that "nobody has the right to give to the war funds the money usually contributed to the hospitals." In this we entirely agree.

Lessons on Prescriptions and the Art of Prescribing. By W. Handsel Griffiths, Ph.D., L.R.C.P.E.; late Professor of Chemistry, Ledwich School of Medicine, Dublin, &c. New and Revised Edition. Adapted to the B. P. 1898. London and New York: Macmillan & Co.

There are few of the practitioners in Dublin, whose memory reaches back for twenty years, who do not remember the help they obtained from the perusal of W. Griffiths' excellent lessons. The book has been accurately revised and brought into accordance with the B. P. of 1898, and the modern advances in pharmacy and materia medica.

The Pocket Formulary for the Treatment of Disease in Children. By Ludwig Freyberger, M.D., Vienna. Second, revised, and enlarged Edition. London: Rebman. 1900. Pp. 240.

In April, 1898, we reviewed the first edition of this useful work. A second edition was called for within eighteen months of its publication. This has now been brought out, and is adapted to the British Pharmacopœia of 1898. Many valuable additions have been made to the list of remedies described. Receipts for medicated baths have been included in the appendix. The therapeutic index has been much extended, numerous cross references having been introduced. In all, the present edition includes thirty-two pages of new matter. The general plan of the work is unaltered.

There is little to criticise adversely in Dr. Freyberger's book. Ten minims of the official syrup of lactophosphate of calcium is an unnecessarily small dose for a child 2 to 3 years old. We usually give this valuable syrup in one drachm doses.

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By Henry T. Bewley, M.D. Univ. Dubl.; F.R.C.P.I.; Physician to the Adelaide Hospital; and Lecturer on Forensic Medicine and Hygiene, Trinity College, Dublin.

(*Continued from page 295.*)

VI. ON LEUCOCYTOSIS IN CASES OF PUS-FORMATION ANYWHERE IN THE BODY.
VII. CHRONIC SULPHONAL POISONING.
VIII. HÆMORRHAGES IN CIRRHOSIS OF THE LIVER.
IX. ON BABINSKI'S REFLEX.
X. NAPHTHALIN AND OXYURIS VERMICULARIS.

VI. LEUCOCYTOSIS IN CASES OF PUS FORMATION ANYWHERE IN THE BODY.

Maclean (*Med. News*, N. Y., Dec. 2, 1899, p. 715) has contributed a paper which shows the great value which an examination of the blood possesses from the diagnostic standpoint. He refers first to the physiological leucocytosis which occurs after a meal, and recommends that all blood examinations should be made preferably before breakfast. Pathological leucocytosis is generally in excess of any form of physiological leucocytosis, and the latter can generally be easily eliminated. Leucocytes are present normally in the peripheral circulation in the proportion of 6 to 9,000 per c.m.; and, as the result of a large number of blood counts made in cases of suppuration, he states that "in all cases of inflammatory disturbance, accompanied by pus-formation, leucocytosis is an invariable accompaniment, except in a few instances." The suppurative process may be acute or chronic, deep-seated or superficial, encapsulated or diffuse, but the leucocytosis is present. The leucocytosis begins with the formation of pus and increases with it, but its

degree is not always proportionate to the amount of pus present. The latter is probably to be explained if we look upon the leucocytosis as due not so much to the mere presence of pus, as to the resisting power of the patient. He records a number of cases in which the blood count helped to clear up the diagnosis in a wonderful manner. Some examples may be given. *Appendicitis.*—In the catarrhal form there is little or no increase, but in the purulent and gangrenous forms there is always an increase. The advance of a case from the former to the latter may thus be detected, and shows when surgical interference should be adopted. In one case, that of a male adult, the leucocytes numbered 19,600 at first count. Twenty-four hours later, temperature, pulse, and general condition better; leucocytes 22,000. Next day symptoms still improving; leucocytes 27,000. An immediate operation was urged, as, notwithstanding the improving symptoms, the increasing leucocytosis showed that the abscess was increasing in size On operating, the appendix was found to be gangrenous in an abscess cavity, containing 9 oz of pus. In other five cases of appendicitis three gave leucocyte counts of 31,200, 34,000 and 16,000, and were found on operation to be purulent; and two gave counts of 9,600 and 7,400 respectively; and in the former an operation disclosed a healthy appendix, surrounded and bound down by many adhesions, and the latter a healthy appendix but impacted gall-stones. The blood count is therefore an important means of differential diagnosis, as it serves to distinguish appendicitis from many conditions which resemble it clinically, such as hepatic or renal colic, intestinal colic, intestinal obstruction (without gangrene), fæcal impaction, typhoid fever, nephralgia, floating kidney, ovaralgia, old adhesions, and tubercular peritonitis, which all fail to give any leucocytosis. *Tuberculosis.*—In pure tubercular lesions, whether accompanied by pus-formation or not, there is no leucocytosis. Thus, in a case of peritonitis in a child, tuberculosis was expected. The blood count gave 19,300 leucocytes, and thereby excluded tuberculosis. In another case of enlarged cervical gland, with fluctuation, the leucocytes numbered 6,200, and showed it to be a tubercular abscess. Other instances of its applica-

tion are given. Thus, in a case regarded as muscular rheumatism, the leucocytes numbered 20,600, and led to a suspicion of osteomyelitis, confirmed by operation. In a case with symptoms of obstruction of the gall-bladder they numbered 14,000, and an operation showed an empyema with impacted gall-stones. In another case of suspected abscess of liver they numbered 17,200, and an operation found a large abscess in the right lobe. In another case, thought to be appendicitis, in which an operation was advised by a consultant, they numbered 6,800, and excluded appendicitis, but suggested typhoid, which was confirmed by Widal's test. Salpingitis and perinephric abscess were revealed in the same way, and its wide application is obvious. In that very important class of cases in which obscure and deep-seated formations of pus occur beneath the diaphragm, subphrenic abscesses, the test, if proved to be always reliable, will be of great service. It is of service also in diagnosticating internal hæmorrhage. It is often difficult to say whether a case is one of concussion or compression from hæmorrhage; in the former there is no leucocytosis, whereas it is present in the latter. It appears within an hour or so after hæmorrhage has occurred, and persists for days, sometimes weeks. He gives a case of a male who was injured by being thrown from his horse. The question lay between concussion or cerebral hæmorrhage. Leucocytes were 9,100 and red cells 4,700,000, and hence a diagnosis of concussion was made, which proved correct.—*Edinburgh Med. Jour.*, March, 1900.

VII. CHRONIC SULPHONAL POISONING.

Dietrich contributes a review of the reported cases of sulphonal poisoning (*Therap. Monatshifte*, April, 1900). The drug was introduced by Kast in 1888, and since then 30 fatal cases have been described, and about fifty non-fatal severe cases. Considering how much sulphonal is used, Dietrich thinks this a small number, but doubtless many cases have passed unrecorded. They have all been chronic in character, and have occurred during the medicinal administration of the drug, mostly in lunatic asylums. The amount necessary to cause poisoning varies extremely—

1,500 grms. in six years, 224 grms. in 205 days, 893 grms. in 971 days, 128 grms. in 91 days, and similar amounts have frequently been taken without any ill effects. On the other hand, death has occurred after 16 grms. in one month, and 90 grms. in three months, and severe poisoning after 180 grms. in 270 days, 132 grms. in 120 days, and so on. Poisoning, therefore, does not depend directly on the amount taken, but probably to a large extent on the circumstances of the individual. Women are more commonly affected than men, and poor diet, age, and debility all increase the tendency. Constipation specially favours poisoning, as the drug has more chance of being largely absorbed. It is sometimes found unchanged in the urine. None of these points, however, sufficiently explain the predisposition of certain persons as compared with others.

The *post-mortem* changes throw no light on this either. Degenerative processes and hæmorrhages are found in the liver and kidneys and in other organs, and occasionally there is gastro-enteritis. Experiments on animals have given similar results.

The symptoms are first gastro-intestinal—colicky pains, vomiting, constipation—and at the same time a cherry-red colour of the urine. Soon ataxia, paresis, slow speech, and more or less stupor occur. The pupil and tendon reflexes are weakened or absent. The heart may suddenly fail and cause death. A high temperature is often observed. The red colour of the urine is said to be due to hæmatoporphyrin, an iron-free derivative of hæmoglobin, but, according to Quincke, it is a new, hitherto undescribed pigment. Dietrich, however, says, that he isolated a body from such a urine, which was undoubtedly hæmatoporphyrin. The urine is acid, and does not decompose, no matter how long it is kept. Albumin is present in about half the cases. Blood cells, bladder cells, and kidney tube-casts may also be found.

Sulphonal should never be given continuously, and its administration should be interrupted every five to seven days or thereabouts. If chronic poisoning do occur, purgatives and diuretics should be given to clear it out of the body. Alcohol and digitalis and other heart and circulatory

stimulants should be given. Diuretin is specially useful. Large doses of sodium bicarbonate should also be administered to increase the alkalinity of the blood, while magnesium carbonate and potassium acetate are also useful. Vomiting, colic, and other symptoms must be treated by the usual remedies.—*Edin. Med. Jour.*, May, 1900.

VIII. ON FATAL HÆMORRHAGES IN CIRRHOSIS OF THE LIVER.

Dr. R. B. Preble (Chicago) in a careful paper based on 60 autopsies comes to the following conclusions:—

1. Fatal gastro-intestinal hæmorrhage is an infrequent but not rare complication of cirrhosis of the liver.

2. In the great majority of the cases the cirrhosis is atrophic, but it may be hypertrophic.

3. In one-third of the cases the first hæmorrhage is fatal; in the other two-thirds the hæmorrhages continue at intervals over a period varying from a few months to several years, the maximum given being eleven years.

4. In one-third of the cases the diagnosis can be made at or before the time of the first hæmorrhage. In the other cases the diagnosis cannot be made at all or only after months or years, during which time other symptoms of cirrhosis have developed.

5. Œsophageal varices are present in 80 per cent. of the cases, and in more than one-half of this 80 per cent. the varices show macroscopical ruptures, and it is probable that many other ruptures would be found if the varices were tested by injection of air or fluid.

6. Fatal hæmorrhages occur in cases which show no œsophageal varices, and they are probably due to the simultaneous rupture of many capillaries of the gastro-intestinal mucous membrane.

7. The hæmorrhages in this class of cases are usually preceded by other symptoms of cirrhosis, but the first symptom may be a fatal hæmorrhage.

8. In 6 per cent. only of the cases which showed œsophageal varices was the cirrhosis typical—*i.e.*, showed ascites, enlarged spleen, and subcutaneous abdominal varices.—*Amer. Jour. of Med. Sci.*, March, 1900.

IX. BABINSKI'S REFLEX.

Cestan and Le Sourd (*Gaz. des Hôp.*, Nov. 23, 1899) have made a study of Babinski's reflex. Babinski has shown that if a pin or needle were drawn along the outer part of the sole of the foot of a person in whom the central motor tracts were normal, the toes would be flexed; if, however, the pyramidal tracts were injured the toes would be extended. Cestan and Le Sourd have examined this reflex in 300 persons, many of whom were in good health. They have never obtained extension of the toes in a normal adult. Extension of the toes from irritation of the sole of the foot occurs in normal infants, and the age at which this reflex changes in character has not been determined. In rare cases the pyramidal tract may be injured without the appearance of Babinski's reflex, but Cestan and Le Sourd have never obtained this reflex in adults when the pyramidal tract did not seem to be involved. The sign is of diagnostic value between hysterical and organic hemiplegia. This "phenomenon of the toes," as Babinski called it, may develop very soon after an apoplectic attack. Cestan has found it one hour after an apoplectic "attack," and at a time when the knee-jerk was diminished; he was able from this sign to dispute the diagnosis of hysteria that had been made in the case, and to show that the disease was organic. The sign of Babinski is very frequent in hemiplegia, especially if the cases in which the arm is much affected and the leg only slightly so, and the cases in which *organic* disturbance of sensation on the sole of the foot occurs, are not considered. Cestan and Le Sourd have never seen the extension of the toes in hysterical hemiplegia. The Babinski reflex may occur during an epileptic convulsive seizure and disappear later. Absence of the sign does not prove that the pyramidal tract is intact.—*Internat. Med. Magazine,* Feb., 1900.

X. NAPHTHALIN AND OXYURIS VERMICULARIS.

Dott. Agostino Sorini gives a preliminary dose of calomel, and then for a week twenty-two grains of the remedy each day. At the end of the second week no worms were found, and the fæces were free from them during about two months.

Care should be taken (1) that the remedy is pure; (2) to forbid fats and alcohol, in which it is soluble; (3) not to use a too large dose and to interrupt from time to time its administration to avoid untoward phenomena from kidneys, bladder, and eyes, such as have been pointed out by various observers.—*Gazzetta degli Ospedali e della Cliniche*, 1900, No. 6, and *Amer. Jour. of Med. Sci.*, May, 1900.

DEAFNESS AS A RESULT OF THE ABUSE OF PHENACETIN.

H. Guleke (*Zeitschr. für prak. Aertze*) gives a prescription for powders containing 0·7 grm. of phenacetin, one powder to be taken twice daily. Through the stupidity of those in charge, the powders were given every two hours; so that in the course of less than 24 hours the patient took 7·0 grm. of the drug. Aside from other toxic symptoms, the patient was entirely deaf. On the subsidence of the general symptoms the deafness continued and has proved to be permanent. Meningitis could be excluded, and the only explanation is that the function of the ear was entirely destroyed by the phenacetin.—*The Laryngoscope.*

RECURRENCE OF THE TONSIL AFTER OPERATION.

F. E. Hopkins (*N. Y. Med. Journal*, December 2, 1899) reports an operation which was performed upon a girl thirteen years of age; some adenoids were removed also under ether at the same time, the tonsils were thoroughly removed, pressure being made from the outside. An examination three weeks later justified such an expression. In four months the patient was seen during an attack of acute inflammation of the tonsillar tissue, and the left gland was found considerably enlarged. Two months after the tonsil was again removed, and under the microscope proved to be simple hypertrophy—*The Laryngoscope.*

POST-PUERPERAL PSOITIS.

Walter C. Wood says post-puerperal psoitis is to be thought of after severe labour when fever is associated with marked pain in the iliac fossa, especially on extending the leg, and a tumour is made out. It must not be confounded with renal affection, perinephritic phlegmon, abscess by congestion, and especially appendicitis with abscess. The best possible drainage is the proper treatment.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

Introductory Address delivered at the opening of the Session of 1900–1 in the Meath Hospital. By JAMES CRAIG, M.D. Univ. Dubl.; Fellow and Registrar, R.C.P.I.; Physician to the Meath Hospital and County Dublin Infirmary; University Examiner in Medicine in the University of Dublin.

I AM glad to be in a position to offer, on behalf of my colleagues and myself, a hearty welcome to the beginners who come amongst us as students for the first time, as also to the old friends who are returning for a further, or it may be for a final, experience as medical students in hospital work.

Before asking you to listen to the several matters in which I shall more particularly claim your attention, a duty devolves upon me which I approach with sad reluctance—it is to record the losses which the hospital has sustained within the present year through the death of several of its most distinguished workers.

Mr. Glasgow Patteson, who succeeded the late Sir George Porter, Bart., as Surgeon to the Hospital, had only five brief years of service in which to prove his worth before he succumbed, in April last, to a chronic malady, whose insidious invasion he fought to the last with admirable courage. At the time of his death he was one of the most brilliant of the younger surgeons in Dublin. He was clever, skilful, brave, and honest; he taught well, for his knowledge was great; he operated well, for he knew what was necessary to be done and how best to do it; and these, I fancy, are the attributes which a hospital surgeon should most desire to have associated with his memory.

Ill as we could afford to be deprived of a valuable worker like Mr. Patteson, the shadow of a yet greater loss was soon to fall upon the hospital, for on the 18th of August the unwelcome tidings reached the city that Sir William Stokes had that day died of pleurisy in Pietermaritzburg. His appointment as Consulting Surgeon to the Forces in South Africa, his departure from Dublin

at the commencement of the present year, and the services which he afterwards rendered by his experience and skill to our wounded soldiers at the front I need not dwell upon. Neither is it within my province here to speak of his surgical fame in the outer world, but I prefer rather to confine my remarks to the friend and teacher who has been lost to us in this hospital. Here, for twelve years, Sir William exercised his wonderful surgical skill in the relief of human suffering; here he delivered those clinical lectures which his remarkable gifts as a teacher made acceptable to the meanest intellect among his hearers. Of the care with which these discourses were prepared, and of the delight which accompanied the success of his teaching, I can bear ample testimony. Sir William was the type of truest gentleman—he was an enthusiastic worker, a model teacher, a great surgeon, and a loyal colleague, whose place it will, indeed, be hard to fill.

I cannot but also refer to the death of another distinguished though past member of the hospital staff. Dr. Arthur Wynne Foot was for twenty-one years a physician to this hospital, but owing to failing health he was compelled to resign his position in 1892. Few here, and certainly none of the students of to-day, had the great privilege of being taught by him, or of coming within his magnetic influence. No one is better able than myself to appreciate the misfortune which his retirement entailed on the hospital, for it fell to my lot to become his successor. I shall go no further now than to say that my old master was to me an object of reverence and deep affection, but, withal, an ideal clinical physician whom it was possible to copy but not to equal.

The vacancies on the surgical staff created by the lamented deaths of Mr. Patteson and Sir William Stokes have been filled by the well-deserved promotion of our two former surgical assistants, Mr. William Taylor and Mr. Richard Lane Joynt.

The subject of Consumption, on which I have decided to endeavour to interest you, is one of exceptional importance, and to myself a daily source of sorrowful contemplation. In point of fact, the duties connected with the medical work in the out-patient department, which formerly I approached with the greatest pleasure, have become so distressing that I now positively shrink from the difficulties that I am there forced to face. Numbers of patients suffering from consumption present themselves daily at the dispensary; they bring letters of recommendation from subscribers or not, as the case may be; they have no means; they are unable to work; they should not be admitted to a general hospital,

and so it is left to my colleagues and myself to get rid of them as best we can.

The members of the medical profession, in addition to rendering themselves competent in the treatment of the sick, have also imposed upon them the grave responsibility of educating the public in the matter of the prevention of disease, and the purpose of my remarks to-day is, if possible, to arouse the public conscience to the crying necessity which exists for a vigorous and sustained effort in endeavouring to lessen the prevalence of the national scourge of consumption, and to provide accommodation for the poor who have contracted the disease.

Nearly ten thousand people in Ireland die every year from pulmonary consumption, and these numbers do not include three thousand more who succumb to other forms of tuberculosis. Dublin itself, with a population of 350,000, is responsible for some 1,300 deaths per annum, and Belfast with practically the same population, is a good second with over 1,100 fatal cases in the year. On an average, therefore, 24 inhabitants of this city die every week from a disease which is now regarded as preventable. Several facts in connection with this astounding mortality are worthy of notice :—

(1.) In England the date-rate from consumption has been showing a steady decrease for the last twenty years, whereas in Ireland the reduction has been scarcely appreciable.

(2.) The death-rate in London from phthisis is less than one-half of that which obtains in Dublin.

(3.) The fatalities in our city from a combination of the principal zymotic or infectious diseases are less than those caused by consumption.

(4.) The victims of consumption are chiefly the men and women between twenty-five and thirty-five years of age, who are the most active workers and bread-winners in the community.

The idea that consumption could ever be stamped out, in the same way that typhus fever has been rendered practically extinct in Ireland, may seem to many to be a chimerical one; but the advantage which we now possess in knowing the specific cause of the malady, and the evident benefits which have followed improved sanitation in regard to other forms of infectious disease, should encourage us to hopefully attack this the deadliest enemy to the health of our people.

I shall, in the first instance, dwell with brevity on the manner in which the disease is acquired and spread, so that the methods which should be adopted to resist its occurrence and provide a possible cure may be the more readily understood.

Consumption is due to infection by living germs from man or animals who suffer from the malady. It is true, however, that the inheritance of weak constitutions, the employment at certain occupations, and the manner in which people live, are all factors in rendering some individuals more susceptible than others in acquiring the germs of the disease. Inhaling dust impregnated with the dried expectoration, or directly breathing the spray from their mouths while coughing, of those who suffer from consumption must be regarded as the main source of the infection, although evidence is forthcoming in abundance to show that the milk and flesh of tuberculous cattle may be the means of introducing the germs into the body. Moisture and heat are as favourable to the growth of the germs as dry, fresh air and sunshine are inimical to it. The poor are undoubtedly the greatest sufferers from the disease, and the reasons for this are not far to seek. Overcrowding, especially in a sleeping-room which fresh air never enters, insufficient food and clothing, dirt and a general disregard of the most elementary laws of sanitation, are a combination of conditions by which the germs of infection are encouraged to grow and spread with alarming rapidity.

How frequently does the saddening experience occur to many of us to witness the gradual extinction of a large family who, in their occupation of a tenement-room, have successively infected each other by reason of the conditions just enumerated! Probably the evil does not even rest with the destruction of the family referred to, for the clothing and bedding of the victims may find their way to the pawn-shops, and there become the property of others who acquire the infection from them. Indeed, the very room in which the family has lived and died, unless it be thoroughly disinfected, will be a veritable death-trap to those who inhabit it later on.

I now come to speak of the methods which should be adopted to prevent the spread of the disease, and of necessity my observations must be confined to a few general hints. The teachers in the primary schools, who themselves will instruct the young, must be taught the importance of sunshine, fresh air, free ventilation, and cleanliness in the prevention of consumption. The Jubilee nurses afford one of the readiest means of directly carrying into the homes of the poor the information as to the dangerous character of tuberculous expectoration, the necessity for ventilation, fresh air, and whatever isolation may be possible. The employers of labour, in whose places of business numbers of workpeople are congregated together, must see to the proper heating and ventilation of the rooms, to the banishment of dust, and to the destruction of

expectoration; while working in damp cellars is almost suicidal. Every movement for improving the homes of the poor, and every organisation to lessen the waste of money in the consumption of drink, should be encouraged.

The sanitary authorities should undertake a room-to-room and house-to-house dissemination of circulars containing practicable advice to be followed by persons infected. The excellent principle adopted by our Medical Superintendent Officer of Health to encourage notification of the disease, and the disinfection of the clothing and homes of those who suffer from or have succumbed to its ravages, should be rendered compulsory throughout the entire country. This much, at any rate, should be required without further delay—that thorough disinfection should be compulsorily carried out in every home where a death from consumption has occurred. The earliest symptoms of the disease should also be made known.

Finally, more stringent measures are required than at present exist to prevent the sale of tuberculous meat and milk, or their contamination by attendants who are themselves consumptives.

I have now at length reached the consideration of the more pressing evils whose existence demands our most earnest attention, so that a cure may be obtained before the disease has progressed, and, for the sake of simplicity, I propose to divide the consumptive poor, whose circumstances I desire to discuss, into three groups—

1. Those who, in an early stage of the disease, offer a fair expectation of cure, and are willing to subject themselves to isolation and treatment.

2. The consumptives who are the bread-winners of a family, and are, therefore, compelled to remain in their homes and engage in their daily work while any strength remains to them.

3. Those who, in the latest stages of the disease, are no longer fit to work, and to whom a hope of cure is practically impossible.

In regard to the first class, there is positively no accommodation provided in connection with this city to which pauper consumptives can look for treatment and a hope of cure.

I fully recognise the good work which is already being done by the Consumptive Hospital at Newcastle, Co. Wicklow, but it is not available to pauper inmates, and it contains only thirty-two beds.

The second class is a large one. The individual probably occupies a room in a tenement house, where there is no attempt at reasonable isolation, especially by night, and so the other members of the family are almost absolutely certain to become infected.

The case of the third class is the most pitiable of all, and repre-

sents the final stages of the others. The sufferers are no longer able to work, are absolutely without means, are in the most infective stage of the disease, the general hospital is no place for their reception, and the convalescent homes in connection with the city have one and all decided to close their doors against them. What, therefore, are the prospects to which they may look forward for the remainder of their lives? To remain half-starved in their miserable homes, spreading the infection to any members of the household who have still escaped it; in a few instances to gain admission to the Hospice for the Dying, where they will be cared for most excellently, or finally to become unwilling inmates of the Union Hospital, where the conditions, however excellent, are by no means the most suitable for the amelioration of the symptoms of advanced consumption.

I do not in the foregoing category include the Royal Hospital for Incurables, for although a most excellent organisation prevails there, still it is intended for a better class of patients than I am referring to, and a considerable amount of interest is required before admission can be obtained.

The problem, then, which confronts us—and it is one which the Public Health authorities in the city must conscientiously endeavour to solve—is, by what methods the circumstances of each of the three classes whose position I have attempted to define can be most effectively improved.

Sanatoria, however rude, should be provided where fresh air and shelter would be available in the treatment of adults and children for whom a cure may be reasonably expected.

It will not be out of place here to direct your attention to the way in which some of the other countries have endeavoured to cope with this world-wide scourge by the provision of sanatoria where the poor can be treated in the earlier and more hopeful stages of the disease.

France, in addition to several sanatoria for adults, has provided by private subscription two splendid institutions, with 350 beds, available for consumptive boys; and over twenty seaside sanatoria, very much like our own convalescent homes, exist, where from two to three thousand children with a consumptive tendency are capable of being accommodated and restored to health.

Germany, in 1895, had only two sanatoria and two small houses where the poorer classes could be received for hygienic treatment; but in the three years which followed nearly thirty of these institutions were established, and that, too, indirectly by the poor themselves; for, on account of the law which enforces compulsory

insurance against sickness and old age on all whose annual income is less than £150 per annum, the insurance companies were quick to realise that the readiest way to save themselves from the disbursement of sick pay was to expend a large share of the premiums they received in the provision of sanatoria for the treatment of consumption. The result is that, "At the present time, every large town and every district in Germany has its local Sanatorium Society, and often already its own sanatorium."

Russia was aroused to a sense of its duty in 1895 by a report from the medical practitioners of St. Petersburg as to the need of sanatoria for the treatment of the consumptive poor, and an appeal was made to the public for funds. This was followed by the formation of a Society under distinguished patronage, to which the Emperor Nicholas II. contributed a sum of nearly £50,000, for the erection and maintenance of a sanatorium in memory of the Empress Maria Alexandrovna, who was herself a victim of consumption, and, in addition to this, he handed over to the society a large property of his own where a famous sanatorium has since been placed.

Many more of these institutions have been also provided which are supported by individual and public generosity, by local rates and by church collections.

In Norway the popular present to the King in commemoration of the 25th anniversary of his accession to the throne, amounting to upwards of £100,000, was chiefly devoted by him to the establishment of sanatoria for the consumptive poor. In that country, too, I may say in passing, compulsory notification of the disease has become law, and many useful reforms have been enacted to prevent the spread of the disease.

Switzerland, Austria-Hungary, America, the Colonies, and, in fact, every civilised country on the globe, is making provision for the proper hygienic treatment of consumption, while in Ireland what has been done, although deserving of the highest praise, is microscopic in comparison to the needs of the community.

Dublin, with nearly 1,300 deaths in the year from consumption (more than half of whom are among the strictly poor), can boast of the hospital in Co. Wicklow with its 32 beds, which have been provided and are maintained by public and individual generosity, aided by the minimum charge of 5s. per week which the inmates are called upon to pay ; and Belfast, with a mortality of 1,100 per annum, has 40 beds at its command in the hospital which was erected through the munificent contribution of £13,000 by the late Mr. Forster Green.

There the provision for the poor in Ireland who might hope to be cured ends.

It is obvious, therefore, that sanatoria must be provided on a much more extensive scale than at present exists for the treatment of hopeful cases among the poor who are unable to pay for it.

I have no desire to propound visionary or impossible suggestions; on the contrary, I am prepared to admit that we must content ourselves with small but gradual improvements. The hospital at Newcastle is capable of great extension; let it be supported by every legitimate means known to the charitable public, let the ratepayers of the city and county-at-large be taxed with a small additional sum for this deserving purpose, and soon we shall find ourselves in a position to maintain not only 100 beds at Newcastle but several further hundreds in ruder shelters, where consumptives among the very poor may not be denied the curative influences of fresh air and wholesome food.

I am beset with apparently insurmountable difficulties when I approach the task of attempting to suggest any certain methods by which members of a family who inhabit a single room can be prevented from acquiring the disease when one of their number who has become infected is compelled to continue to work. The real difficulty lies in the necessity for isolation at night. The evil would be minimised if due regard were observed in the matter of ventilation, the frequent boiling of clothes, and the destruction of expectoration by fire; but as these precautions are almost unattainable, it is a question whether it would not be possible for the Public Health Authority either to provide a separate room in the same tenement house in which the infected person might sleep, or to set apart special houses which, under their own immediate supervision, might be utilised by victims of the disease who fear to spread the infection to their relatives.

This matter, I understand, is under the consideration of the Medical Superintendent Officer of Health and a few members of the Public Health Committee of the city, but practical suggestions on the subject from other sources would, I am certain, be gladly welcomed by them.

The pitiable condition of those who, in the latest stages of the disease, are past work, are probably infecting others, and have no prospect before them but the Hospice for the Dying or the Union Hospital, is that which most directly appeals to myself in my daily work at hospital. Homes akin to the Hospice are an absolute necessity, and the plain duty of the Public Health Committee is to draw the attention of the Corporation to the state of affairs which

exists in the city—viz., that numbers of respectable half-starved consumptives, who are a menace to public health, require a spot in which to end their days, and for which the Uuion Hospital may be considered sufficiently adequate, but where they certainly are unwilling to die.

I cannot help thinking, in face of the facts which I have placed before you, how far distant the realisation of the poet's dream must still be—

> "All diseases quenched by Science, no man halt, or deaf, or blind;
> Stronger ever born of weaker, lustier body, larger mind!"

Let me, however, quote for your benefit the hopeful words of Dr. F. R. Walters, to whose work on "Sanatoria for Consumptives" I am much indebted. He says, in reference to Great Britain:—"Our country's sanitary past has been great and fruitful, and there is every reason to hope that with growing consciousness of the possibility of destroying this dread scourge of humanity, by the abolition of town smoke, the improvement of our dwellings, the better ventilation of rooms and streets, the admission of sunshine into our midst, the inculcation of more rational habits of life, the destruction of sputa, the erection of sanatoria, and in many other ways, she will gradually prepare for herself a still more great and glorious future."

This bright picture, I am sorry to say, does not extend to Ireland, for the neglect of sanitation is undoubtedly the cause of our great mortality from consumption; nor are the prospects for the future as encouraging as they might be. The condition of the city of Kilkenny, as given to the public a few days ago, does not tend to diminish the stream of emigration from our shores, or engender much hope for improved sanitation in the future—no proper water supply, no system of sewerage, 300 cases of diphtheria in the past year, typhus and enteric fever always prevalent, and the Urban Council ignoring for years the reports of their Medical Officers of Health and of the Inspectors of the Local Government Board as to the sanitary needs of the town.

I have no hesitation in saying that the action of the Government in the administration which is again about to take office is responsible for the neglected condition of sanitary reform throughout Ireland. The promoters of the Local Government Act of 1898 obstinately refused to put this country on an equal footing with England or Scotland. They refused to accede to the representations of the Irish College of Physicians to render it even permissive for County Councils to appoint Medical Superintendent Officers of Health over a county or a group of

counties, who, as experts and independent of private practice, would have, in conjunction with the existing Medical Officers of Health, done more in one year to establish efficient sanitation throughout the country than can ever be effected by the present organisation.

Let us turn to a brighter subject. The fact that the two clinical medals offered by the medical staff of the hospital have been won this year by lady students—a feat not accomplished for the first time either—has induced me to give a passing glance at the position of women in the medical profession.

Of the three so-called learned professions, that of medicine was the first and for so far the only one to throw open its portals to women, and the success which has already been achieved by the lady doctors who availed themselves of the opportunities thus afforded to them is in itself sufficient proof of the wisdom which prompted the concession.

As far back as 1876 the Royal College of Physicians of Ireland was the very first medical corporation to give its consent to examine a lady for the licence to practise medicine. That the candidate who presented herself for examination was less fair to look upon than the one who had made the successful appeal, and that on this account the concession was almost revoked, is a rumour around which a vestige of truth may possibly hang; but, however that may be, since the aforesaid date the College has granted its licence in medicine to no less than fifty-eight women, eleven of them being in conjunction with the Royal College of Surgeons. The Royal University, commencing many years later, has sent forth twenty-five sweet girl graduates in medicine and surgery, but the University of Dublin has up to the present turned a deaf ear to the just claims put forth by women for the opportunity to obtain its ancient hall-mark of professional skill. Haply, however, in the near future, a more progressive spirit will prevail in the Councils of the University and this injustice be finally swept away.

The chief claim put forward by the pioneers who fought for the opening up of a medical education for women was incontestable, and was briefly this—that, in case of illness, where one of their own sex was anxious to obtain the services of a lady doctor such a desire should be attainable. In addition to that, however, the estimable fact was patent that in this way an additional means of livelihood would be possible to women of education. I venture to think that the original motive in many instances in the present day has been consigned to the limbo of the past, and women are now entering the profession, to a large extent at all events, for the sake of

individual work and the recompense which accrues to it. It becomes, therefore, a matter of some moment for a prospective lady medico to consider what openings in the profession are available to her, and what chances of success in a medical career lie before her, for a medical education is not only an expensive one but entails as well heavy and sometimes repulsive work.

The position which has been attained by numbers of lady practitioners, even in centres where the competition is keen, leaves the question of success a matter to be decided by the qualities of the competitor. In the thirty years that have passed since the competition first began it has been abundantly proved, however, that women in general are still quite content to leave the cure of their bodily ailments to the skill of man; but, at the same time, it is equally obvious that many women will readily avail themselves of the services of medical women where such services can be obtained.

In the Indian Empire, with its mission work, and later on, it may be, in China, there must be a wide scope for lady practitioners, but at home, apart from private practice and the openings which exist in the asylums for the insane, where many women are doing excellent work, few positions are as yet open to them.

The following notice appeared in the *British Medical Journal* several weeks ago :—

APPOINTMENT OF A LADY *LOCUM TENENS* FOR A DISPENSARY DOCTOR.

The Poor Law Guardians at Cookstown have appointed Miss Annie H. Crawford, M.B., *locum tenens* for Dr. Bell, Pomeroy, at the rate of three guineas per week. Both the Guardians and Dr. Crawford are to be congratulated on this progressive step.

This called forth a strong protest from Dr. Arthur Wiglesworth, of Liverpool, who, by a remonstrance, expressed the opinion that "if the option of choice remained to these poor people there would not be much cause of complaint, but to force the poor to bring their complaints before a female practitioner is a moral wrong of no mean order." Later on, Dr. Isabel Thorne, of London—a pioneer of the medical education of women—contributed her views on the appointment in the following words :—"If it *obliged* men to consult a woman for medical aid I should strongly protest against it."

These, I fancy, are the old world views which most of us hold, and while I gladly take part in the medical education of women whose devotion to work is in the highest degree commendable, and while I watch their after success with the most unalloyed pleasure, I consider it to be my duty to warn those who aspire to work in

our ranks that their services will as yet be required only in a limited sphere of medical and surgical practice.

I have left myself little opportunity for offering a few words of advice to the students. I am not sure that the omission will be a matter for grief on their part, but this much I must say—that the keynote of your success in life will be *work*. If you do not work in your student days, so as to enable you to take up a position for which your services will be fairly remunerated, I have no doubt but that in the toils of a rough practice in England you will consider you are reaping the harvest of neglected opportunities, even although you can reckon your yearly income by thousands.

Yet a still more serious aspect of the matter presents itself, for, by your neglect of the facilities for acquiring knowledge which are here afforded you, valuable lives may be allowed to perish which a greater experience and skill would possibly have saved; so, therefore, in ending by asking the students to take for their motto the words Earnestness, Industry, and Perseverance, and to give effect to that motto, I feel that I am pointing out the surest way to their future happiness and success in the noble profession to which they aspire to belong.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1901, provided that an Essay deemed by the Committee of Award to be worthy of the Prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by Thomas R. Neilson, M.D., the Secretary of the College, on or before May 1, 1901. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga Prize for 1900 has been awarded to Dr. David De Beck, of Cincinnati, Ohio, for his Essay entitled: Malarial Diseases of the Eye."

A Great American Surgeon.

Hunter Holmes M'Guire, M.D., LL.D. A Biographical Sketch. By George Mahood Foy, M.D.; F.R.C.S.I.; Surgeon to the Drumcondra Hospital.

Dr. Hunter M'Guire was descended from the M'Guires of Fermanagh. His ancestor, Edward M'Guire, who was born at Ardfert, Kerry, in 1720, emigrated to the "Old Dominion," and settled in the lovely valley of the Shenandoah about 1750.

The subject of our memoir was the son of Dr. Hugh M'Guire, of Winchester, Virginia. He was born on the 11th of October, 1835, in the house which Thomas, sixth Baron Fairfax, built when he came into possession of his property in Virginia.

Dr. Hunter M'Guire studied at the Winchester Medical College, where he graduated in 1855, and afterwards in the Jefferson Medical College, Philadelphia, where he obtained an appointment in 1858. In the following year John Brown, of Kansas, the fanatic abolitionist, made his notorious raid into Virginia; seizing the armoury at Harper's Ferry and inciting the negroes of the State to rebellion. The raid took place on the 16th of October, 1859. Brown was captured, tried, and on the 20th of December following he was executed.

Never before in American history were the people, both Northern and Southern, so much excited. The Southerns looked with alarm to a repetition of these marauding expeditions in which neither property nor life was respected, and order was replaced by chaos. The Northerns were inflamed with rage that the Commonwealth had dealt so summarily with Brown, who was not alone a fanatic abolitionist, but also a successful political agitator in Kansas and elsewhere. The New England States determined to make political capital out of the incident of Brown's execution. Brown's body was brought—as that of a martyr "who had made the gallows glorious as the Cross"—with a public funeral through their principal cities.

Dr. M'Guire then had an anatomy class, in Philadelphia, of three hundred students, and feeling insulted by the misrepresentations made against his people, left with his three hundred students, marching all the way to Richmond. His conduct immensely pleased the Virginians, and the Commonwealth provided free education and graduation for the class. When

Virginia took up arms in defence of her state-rights, Dr. M'Guire and his brothers joined the State troops, as privates, at Harper's Ferry. In the following month, May 1861, he got a commission as surgeon in the C.S.A., and was soon after made Medical Director of the Army of the Shenandoah, then under the command of General "Stonewall" Jackson. When General Joseph E. Johnstone took command of the army, Dr. M'Guire served under him until July 1st, when, at the request of Jackson, he was assigned as brigade surgeon, of what was the future "Stonewall" brigade, and was present at all the brilliant victories of the Confederates that created dismay in Washington.

When Jackson took command of the army of the Shenandoah Valley, Dr. M'Guire became his principal medical officer, and in that glorious campaign exhibited those wonderful powers of organisation and unceasing care of the troops that stamped him as the greatest military surgeon since Baron Larry. Under his provident forethought the troops made those marvellous marches that won for them the name of "foot-cavalry," and made them victors over the troops of Burnside, Banks, M'Dowell, Shields, Freemont, and Hunter. By their rapid marches in 1862, the "foot-cavalry" arrived on M'Clelland's right wing, and so began "the week of victory" that raised the siege of Richmond, drove the Federal troops from the Peninsula, and terrified the Cabinet in Washington for their personal safety. Well might Jackson acknowledge that M'Guire's skill as a surgeon, physician and organiser, had made such feats as his "Ironsides" accomplished possible.

When wounded at Chancellorsville, Jackson called for Dr. M'Guire, and when he heard that his medical director and his personal friend was at the local hospital—a long distance away—the dying hero desired to be brought to him.

The journey was a long one, and not suited to a man whose brachial artery was cut across, his humerus smashed by a bullet, as was his left elbow and his right hand. But even worse, he had fallen from his litter on a heap of stones, and brought on an attack of pleuro-pneumonia.

Dr. M'Guire amputated General Jackson's left arm, and extracted the three bullets. The wounds healed kindly and quickly, but the lung inflammation was too much for the General's weakened condition, and he died on the 10th of May, 1863, seven days after his great victory, and with him died the last hope of the Confederacy.

After the war Dr. M'Guire married Miss Mary Stuart, daughter of the Hon. A. H. H. Stuart, of Stanton, Virginia, who was Secretary of the Interior under President Filmore.

Dr. M'Guire now commenced practice in Richmond, and was in November, 1865, appointed to the chair of Operative Surgery in the Medical College of Virginia. His great reputation as a surgeon brought many clients, and amongst his first was General Stoneman, who had just been appointed Military Governor of Virginia.

Soon after his appointment as Surgeon in the C.S.A., Dr. M'Guire persuaded the authorities at Richmond to consent to the immediate liberation of all Federal surgeons captured during the war, a humane act which did much to diminish the sufferings of the wounded on both sides.

His natural goodness of heart devised many ways of lessening the suffering of the wounded prisoners, and his care of those that came into his charge—and they were counted by the thousand—brought many letters from Northern mothers and wives blessing the skill and kindness that saved lives so dear to them.

Amongst the first to publicly thank him and acknowledge his skill as a surgeon, his uprightness, and his unvarying kindness as a man, was the Jefferson College, Philadelphia, and its alumni, which conferred on him the honorary LL.D. degree, and entertained him at a public banquet. He was also called on to deliver the Annual Oration before the College in 1887, and in the same year was elected an Associate of the College of Physicians, and received from the University of North Carolina the honorary degree of LL.D., in recognition of his skill as a surgeon, his ability as medical director, his devotion to duty, and, above all, for his patience with and his unfailing kindness to the sick and wounded.

His practice grew so rapidly that he found it necessary to confine himself to operative surgery, and even then a staff of trained, highly-qualified assistants was required to enable him to get through his work. He enlarged his private hospital, and in a short time it became too small for the numbers of operative cases that came from all parts of the Union. He now determined to build a hospital large enough to accommodate his patients and fitted out with every improvement that science could add. He made a tour of all the principal hospitals of the Union and then visited all the better known hospitals in Europe, with the result that St. Luke's Hospital, Richmond, is one of the best equipped hospitals in existence. Nothing that the welfare or

comfort of the patients require is wanting. Its laboratories—chemical, pathological, bacteriological—are fully furnished; but M'Guire was not satisfied until his patients had a well-furnished library, recreation-rooms, reading-rooms, and at great expense he secured a site that gives an outlook on the hills that surround Richmond, and over the beautiful valley of the James. He was loved throughout the Confederacy, from the Potomac to the Rio Grande. His medical brethren gave him every honour they could bestow.

He was successively President of the following Medical Societies:—The Virginia Medical Society, the Southern Surgical and Gynæcological Association, the American Surgical Association, the American Medical Association, the University Medical College. In every case his election was unanimous, and in no case did he seek the honour.

A fit of apoplexy, on the 19th of April, 1900, arrested him at work, on his way to his private hospital.

The loving care and devotion of his wife and of his gifted son, Dr. Stuart M'Guire, prolonged and made his life not uncomfortable until his death, on the 19th of September last.

For some years past he felt that his strength was hardly equal to the demands on it, and when there was a prospect of war between the United States and Spain, overtures being made to him to become principal medical officer, he pleaded that his strength was unequal to the task, and declined the honour.

Dr. M'Guire will ever be remembered in the United States of America as the friend of General Jackson and a most dexterous operator, and as an unequalled military surgeon; but his patients and friends will hold him in their memory as the kind, thoughtful, loving friend, whose life in word and act reflected the purity and love of "the Good Physician."

ROYAL COLLEGE OF SURGEONS, EDINBURGH.

THE following gentlemen having passed the requisite examinations, were, at a meeting of the College, held on July 24th, admitted Fellows of the College:—Ernest Dykes Bower, M.R.C.S. Eng., Gloucester; Leslie Frank Bucknell, L.R.C.S.E., Edinburgh; Robert Grieve, M.D., Hull; Vincent Edward Nazareth, L.R.C.S.E., India; Arthur Henry Havens Sinclair, M.D., Edinburgh; Henry John Mackeson Wyllys, L.R.C.S.E., Great Yarmouth.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Edward H. Bennett, M.D., F.R.C.S.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF PATHOLOGY.

President—Professor A. C. O'Sullivan, M.D.
Sectional Secretary—E. J. McWeeney, M.D.

Friday, March 23, 1900.

The President in the Chair.

Congenital Polycoria in Both Eyes.

Mr. Arthur Benson showed a case of above in a man aged forty. In the right eye there were, in addition to the normal pupil, eight other openings, and in the left eye one extra opening in the iris. The openings were, for the most part, slit-like defects, through which the fundus could be illuminated. The man had also got chronic glaucoma, for which (and not on account of the polycoria) he sought relief.

Bronchocele Removed for Dyspnœa.

Mr. R. C. B. Maunsell showed the right lobe of a thyroid gland which he had removed from a girl aged eighteen years. A moderate uniform enlargement of both lobes had existed without marked symptoms for 18 months, but within the last month the right lobe rapidly enlarged, and became tense, causing paroxysms of dyspnœa on exertion and stridor on deep inspiration. The specimen demonstrated one of the dangers of even a small bronchocele, as it contained a very tense blood cyst as large as a goose egg. The growth was removed by Kocher's transverse curved incision, and the result was most satisfactory, both in the relief of symptoms and in appearance.

Case of Human Actinomycosis ending fatally, with Pathological Report.

Dr. H. E. Littledale reported the following case:—Admitted to Sir P. Dun's Hospital, under the care of Professor Bennett, on March

8th, with swelling on back of neck and at angle of left jaw. Several discharging sinuses and a fluctuating abscess, which was opened subsequently and the pus examined. Streptothrix threads, like convoluted chains of streptococci, found in the pus, but no clubs. No results from aerobic cultures; anaerobic not made. Microscopically the lesions were granulomata, breaking down into pus, which contained ring-like masses ·15 mm. in diameter, composed of streptothrix threads, but no clubs were present. The lung apices were also affected with the streptothrix and tuberculosis, but tubercle bacilli, found *post-mortem*, could not be detected during life. Lungs were affected from the skin, as during life there was communication between the skin of the back and right lung. No further lesions, except extensive amyloid change in all abdominal viscera. Patient died on November 28th from prolonged suppuration, which all surgical treatment, such as scraping out the sinuses and irrigation, failed to control. The patient positively stated that, though in attendance on cattle, there was no disease of any kind in the cattle of the district.

The PRESIDENT (Dr. A. C. O'Sullivan) said he had examined the pus in this case microscopically, and he had discovered nothing in the way of clubs or threads. In the only other case he had seen the clubs were very obvious structures. He thought it was probable that there were various types of this organism, and that this was not the type described by most text-books. As to its growth, the culture he had in the laboratory of actinomycosis grew quite freely in the air or any medium. In this case he tried cultivation twice, and in the first attempt nothing grew, while in the second almost everything grew. He congratulated Dr. Bennett on having made the diagnosis of actinomycosis without bacteriological examination, and on sticking to it throughout.

DR. BENNETT said that the suppuration as presented to him clinically was unlike anything he had seen before, and the only loop-hole by way of exclusion was the suggestion of actinomycosis. There was another element in the diagnosis—namely, that this patient was a cattle-man, but he insisted, however, that none of the cattle in his district was ever known to have been diseased. He considered that the man, though thin, was not extremely emaciated on admission to hospital. In the treatment he thought it was dangerous to use the potent injections, such as carbolic and perchloride of mercury solutions, so he adopted the compound tincture of benzoin as being least likely to poison. This, diluted with water, was passed into the area between the scapulæ, and the diluted tincture, which could not be mistaken, was expectorated by

the patient, so that there was no doubt in this case of communication with the thoracic cavity. The suppuration extended to both sides of the sacrum, to the very lowest attachment of the spinal muscles.

Dr. Walter Smith congratulated Dr. Bennett on diagnosticating the first case occurring in human beings in Ireland. Considering that on the Continent 40 or 50 cases had been recorded, its rarity in the United Kingdom was peculiar, and it was extremely unlikely that the disease could be overlooked. He showed two plates in Kaposi's small hand Atlas, and most people, he believed, on looking at the first of these would make the diagnosis of sarcoma of the skin, and in the other it would not be extraordinary to diagnosticate tuberculosis of the skin. He was interested in the remarks on the possible cereal origin of the disease, and he thought that this was also, perhaps, the origin of the tubercle bacillus. The difficulties in classifying the actinomycosis fungus was not restricted to it because the classification of all the minute organisms was in a state of chaos. The question was whether there was not more than one fungus producing the disease. Two well-known skin diseases, ringworm and favus, were until recently each referred to a specific fungus; whereas they now knew that in ringworm there were two distinct fungi, one of which caused an easily curable form of the disease. Similarly in favus. With regard to the appearance of these so-called clubs, he was under the impression that these were degeneration processes of the fungus, and, therefore, not unlikely present in other fungous diseases. He found it difficult to accept the statement of a leading authority on the disease, that it was often cured by large doses of iodide of potassium, and that the injection of it would cause the destruction of the fungus locally.

Dr. Knott said he could testify, from seeing the patient, that he was in a fairly good condition on coming to hospital. He inquired how long the man was in hospital before death, and if he had suffered from colliquative diarrhœa.

In reply, Dr. Littledale said that Crookshank believes the clubs to be spore-containing structures. The point against their being degeneration processes was that, as Professor Weigert had told him, the clubs disappear exceedingly soon *post-mortem;* but, on the other hand, they do not disappear in cattle even in old sections. The patient came into hospital on March 8th, 1898, and died on November 24th, 1898, and he had exceedingly bad colliquative diarrhœa, due, he thought, to the extensive amyloid degeneration of the intestine.

A Case of Combined Sclerosis of the Spinal Cord.

Dr. W. G. Smith and Professor O'Sullivan showed an exhibit of above.

Professor O'Sullivan announced that they had a second case of a similar kind which they would refer to as well.

Dr. Knott asked if there was any suspicion of an alcoholic or neurotic history in connection with either case.

Dr. Doyle said that terms like sclerosis, degeneration, and toxins were abstract, and he would like something more definite. Some years ago Professor Orr (?) drew attention to degenerations that occur in the spinal cord in connection with various affections of the urogenital system. He inquired if there was any affection connected with the pelvic organs at any time in these cases.

Dr. W. G. Smith, in reply, said he could not vouch for the personal habits of the two patients, but, as far as he knew, they were temperate. One of the patients was a woman, so that the prostatic idea Dr. Doyle had referred to would not apply there.

Professor O'Sullivan said it would be impossible to account for the degeneration of the posterior columns by the slight sclerosis occurring in the posterior roots of the lumbar nerves, as the degeneration in the cervical region was extreme.

Note on Spinal Dislocation (Forwards).

Mr. M'Causland read the following notes of a case of above :— A man, aged fifty, previously healthy, except for bronchitis and asthma, was admitted to Steevens' Hospital, on February 12th, 1900, under Mr. M'Causland, patient having fallen 14 feet off a ladder on to back and shoulders. On examination there was complete paralysis and anæsthesia, and loss of reflexes in lower limbs, the abdomen was distended and tympanitic, respiration diaphragmatic, inspiration being short, expiration being lengthened. There was typical musculo-spinal paralysis on both sides, but the organs of sight, hearing, smell, and protrusion of tongue were all normal. No difficulty in swallowing, and no swelling or irregularity in the pharynx. Rotation and movement of the head from side to side caused no pain or crepitus. Examination of the back showed no irregularity, or prominence, or depression, and no crepitus over any of the vertebral spines. The upright position was most easy for the patient, as he became breathless and cyanotic on lying down. No priapism, emission of semen, or involuntary passage of urine or fæces. Urine acid, 1022 s.g., lithates abundant, trace of albumen and phosphates. *Treatment*—Complete rest, easily digested nourishment, icebag to spine, attention to bladder and

rectum, and belladonna and ergot internally. Patient died in three hours' time, twenty hours after the accident. *Post-mortem*—A dislocation forwards of cervical vertebræ, with laceration of the cord and membranes. Bones were so locked that reduction would have been utterly impossible.

The Section then adjourned.

SECTION OF MEDICINE.

President—J. W. Moore, M.D. Univ. Dubl.; President of the Royal College of Physicians of Ireland.

Sectional Secretary—R. Travers Smith, M.D. Univ. Dubl.

Friday, April 6, 1900.

The President in the Chair.

Exhibits.

A Case of Chorea, apparently associated with Trauma and complicated with Melancholia.

Dr. Conolly Norman showed above.

Mr. Croly, Dr. Doyle, Dr. Travers Smith, Dr. Parsons, Dr. Langford Symes, and Dr. Knott discussed the case.

On the Symptoms or Phenomena formerly known as "Croup."

Dr. Langford Symes read a paper on this subject. [It will be found at page 24.]

Dr. Travers Smith spoke.

Dr. Drury asked what class Dr. Symes would put those cases under in which they had laryngitis closely resembling what they used to call croup, and which they met with in measles. He saw an enormous number of such laryngitis cases in the last epidemic, and such a number of tracheotomies had to be performed that almost all the tracheotomy tubes to be obtained in Dublin had been used up. At one time there were some 25 to 30 cases all with tubes in, but they were not diphtheritic cases, nor were they laryngismus stridulus, and most of them recovered.

Dr. Doyle recommended the use of sulphate of copper in croup.

Sir George Duffey said he quite agreed with Dr. Doyle as to the benefit of sulphate of copper in such cases as contrasted with depressant emetics. He believed they were often inclined not to give enough antitoxin, and he had never seen any bad effects follow its administration.

Mr. Croly spoke.

Dr. Parsons said that from his point of view diphtheria was an inflammation produced by the Klebs-Löffler bacillus, and it did not make any difference whether the inflammation was catarrhal, croupous or diphtheritic. Some other name would then have to be found for those cases of inflammation of the throat produced by other micro-organisms. Similarly, in a recent paper, Dr. J. W. Moore pointed out that the clinical term pneumonia covered a great variety of diseases, as well as the inflammation produced by the Diplococcus pneumoniæ. In addition to Dr. Symes' two indications for surgical interference he thought they might also add cyanosis.

The President said they would all agree with Dr. Travers Smith that the dyspnœa of diphtheria was not a night symptom, whereas that of laryngismus stridulus was essentially a night symptom. He agreed with Sir George Duffey in believing that diphtheria is often apyrexial, and if they had high fever it was probably not diphtheria. The absence of knee-jerks, however, as well as albuminuria, only appeared after toxic poisoning had taken place, and, therefore, were not reliable indications early in the disease.

Dr. Langford Symes, replying, said he believed there were many varieties of the disease commonly called diphtheria. Why the night attacks which he had mentioned came on he could not tell, and it could not be said that they were indicative that the case was not diphtheritic, because he thought it was possible that a diphtheria case could have a violent spasm of the larynx as well as another.

Pemphigus, with Concurrent Erythema (Iris).

Dr. H. C. Drury described the case of this disease. [It will be found at p. 92.]

The Section then adjourned.

SECTION OF SURGERY.

President—R. L. Swan, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—John Lentaigne, F.R.C.S.I.

Friday, March 30, 1900.

The President in the Chair.

At the request of the President, Mr. Jameson Johnston described his case of interscapulo-thoracic amputation for sarcoma. The patient was not exhibited.

Dr. Doyle asked what was the present condition of the patient, and was there any reason to anticipate a return of the trouble?

Mr. Bennett said he had seen the case while under Mr. Wheeler's care only a few days before his death. The diagnosis made by Mr. Wheeler, with which he agreed, was that given by Mr. Johnston. The only question was as to how the tumour could be removed, and on that point their opinions had not been formulated. He congratulated Mr. Johnston on the success of his conduct of the case.

Mr. Heuston asked from what tissue the tumour grew; was it an osteo-sarcoma?

The President thought the question asked by Dr. Doyle was important. Some time ago he had under his care a nurse who developed a myeloid sarcoma growing from the great tuberosity. In the performance of her duties she fractured her arm through the surgical neck. He removed the humerus at the joint, and as it was noticed that the capsular muscles were engaged, the supra-scapular muscle and the tendons inserted into the humerus were also removed. She remained well for 18 months, then went to London, and wrote to him that the tumour was returning. He gave her a letter to Mr. Watson Cheyne, who removed the scapula and a portion of the clavicle. She was going on pretty well at present, but one could not help being doubtful about the future of such cases.

Mr. Johnston, in reply, said the patient was perfectly well until the 17th inst., when she got a chill, and developed a slight pneumonia. If recurrence took place he would give up all hopes of removing sarcoma without recurrence. He thought the tumour was a periosteal sarcoma.

Axillary Aneurysm cured by Ligature of the Third Stage of the Subclavian Artery.

Mr. Francis T. Heuston stated that, having shown a case of traumatic aneurysm, subclavio-axillary, cured by ligature of the left subclavian artery in its third stage, at the last clinical meeting of the Surgical Section, he thought it would be of interest to the members to exhibit a case of idiopathic axillary aneurysm cured by ligature of the right subclavian artery in its third stage. The patient, a car-driver, aged forty-three years, was admitted into the Adelaide Hospital on January 2nd, 1900. In June, 1898, he felt a pain of constant character in his right shoulder, which, with swelling of his arm, caused him to apply for relief at a hospital in this city, where his case was diagnosticated as axillary aneurysm. He was admitted into the hospital in November, 1898, and was treated

by instrumental pressure until March, 1899, when he left, somewhat relieved, to resume his work, but finding the exposure incidental to his employment was giving rise to swelling of his hand and arm with increased pain, he presented himself for treatment at the Adelaide Hospital. *History*—On admission, on January 2nd, 1900, I found the patient a strong, muscular, well-nourished man. Immediately beneath his right clavicle a considerable swelling existed, which occupied this region to the lower border of the great pectoral muscle. This tumour had a well-marked distensile pulsation, and on palpation gave the sensation as if a very thin wall existed; in fact, it felt as if it must soon burst. On auscultation a well-marked bruit was present. On pressure on the shoulder the bruit and pulsation stopped, as did also the radial pulse. On January 11th, 1900, I ligatured the right subclavian artery in its third stage by the usual incision parallel to the clavicle. Considerable enlargement of deep veins and the presence of the lower cord of the brachial plexus in front of the artery gave some trouble in passing the ligature. When the artery was exposed its coats were found to be remarkably attenuated, so much so as to feel more like the coats of a vein than an artery. Owing to this condition the ligature (strong catgut) was only drawn sufficiently tight to occlude the lumen of the artery, as I feared its cutting through if pressure was applied. After the operation the progress of the case to recovery was uninterrupted, the wound healing by first intention. The patient left the hospital twenty days after operation. On examining the patient now, some twelve weeks after the operation, a solid tumour will be found in the axilla without bruit or pulsation. It will also be noticed that no radial pulse exists in the right arm; no swelling or œdema of the hand or arm is present. The patient has perfect use of his arm and says he has had no pain since the operation: so I may claim that his aneurysm is cured.

Mr. Bennett said the sounds audible in the tumour were of such a nature that if heard behind the sternum the question would at once arise whether the man had not aortic aneurysm.

Dr. Doyle said he felt what he thought was pulsation in the tumour. He did not hear any murmur. He believed the impulse was not in the tumour itself, but came from some of the vessels behind it which had undergone compensatory enlargement.

Mr. Lentaigne congratulated Mr. Heuston on the result obtained. He could hear no heart sounds or murmur of any kind over the tumour.

Dr. Knott asked if the man was suffering now, or had suffered previously, from albuminuria?

Dr. Goulding asked if there was a history of syphilis in the case?

Dr. Travers Smith said he could not hear the heart sounds over the tumour. On listening towards the edge the pulsation of the carotid could be heard.

Mr. Johnston asked what was the thickness of the catgut used, and was more than a single strand employed? He was glad Mr. Heuston approved of simply approximating the coats of the artery.

Mr. Heuston, in reply, said he was unable to detect any sound over the tumour. As to the condition of the kidneys before operation, the urine was found to be of sp. gr. 1026, acid reaction, no albumen, no sugar, or deposit. There was no history of syphilis. The catgut used was the thickest variety ordinarily employed in hospital operations. He did not rupture the internal and middle coats because the wall of the artery was too thin. Although it was now laid down that there was no necessity to rupture these coats, still he felt easier in his own mind by rupturing them where admissible.

Scraping for Tuberculosis.

Mr. John Lentaigne exhibited a case in which extensive tubercular disease of old standing, involving the ankle-joint and foot, with caries of the os calcis, astragalus and lower end of the tibia and fibula, with numerous septic sinuses, had apparently been cured by a thorough scraping with Volkmann's spoon, followed by disinfection with chloride of zinc and absolute phenol. This operation had been performed four months previously, when the patient was in a very bad condition, much wasted and suffering greatly from pain. Since then the limb had been kept in plaster of Paris, and the improvement in the patient's condition had been continuous and uninterrupted. The temperature had fallen to normal at once, and remained normal. The girl was now, as everyone could see, fat and strong, and she believed herself to be cured. The plaster of Paris had only been removed the day before, and consequently the girl walked stiffly and with a limp. The scraping operation had been done without much hope of a cure. It was intended as a cleansing preliminary to amputation or osteoplastic resection of the foot, but the result had been so very satisfactory that Mr. Lentaigne had thought it worth while to exhibit the case. At the operation the bones mentioned were found to be extremely soft, and much *debris* was removed; nearly the whole of the astragalus had come away.

The President said he had seen a great deal of tubercular disease of the ankle, and he felt very doubtful of successful treatment. The anatomical arrangement of the joint made it very difficult to know

when all diseased material was removed. The case was undoubtedly very much improved by the treatment, but he should like to see it at the end of twelve months.

Mr. Bennett said he could not regard the joint as healthy, because its temperature was above normal. A point, however, in favour of recovery was that the sinuses had all healed.

Dr. Kennan said he was struck with the extraordinarily rapid and ready way in which the second septic infection was controlled after the procedure adopted, and he thought the joint was now in a position to get well of itself.

Mr. Lentaigne, in reply, said the limb was now being used for the first time in two years, and had only then been taken out of plaster. It was not strange that the limb should feel warmer to the hand than the other one. He agreed with Dr. Kennan in his remarks. He did not believe that all the tubercular material was removed in excision of the hip or knee, yet these cases get well, especially knee cases. Tubercular disease was often very amenable to partial surgical operation. In this case he believed a cure had been effected. All the numerous sinuses had been healed completely and satisfactorily, and now presented the dimple or depression which usually indicated a permanent cure ; there was neither pain nor tenderness in the joint nor near it. As Mr. Swan was doubtful about the permanency of the cure, he intended, if at all possible, to exhibit the case again after twelve months.

The Section then adjourned.

Friday, May 11, 1900.

The President in the Chair.

On Dupuytren's Contraction of the Palmar Fascia.

Dr. J. Knott read a paper on above subject. [It will be found at page 95.]

Mr. E. H. Bennett remarked that he had the condition developed in his right hand, and it was beginning to develop in the left also. He could appreciate the justice of the remark that it commences in the ring finger. Being a racket player he might attribute it to the irritation of the butt-end of the racket, but this explanation would not apply to the left side, and its symmetrical development, therefore, puzzled him. He had dissected many preparations, but could discover no satisfactory explanation of its causation.

Mr. Lentaigne spoke.

Mr. Heuston asked if there was any truth in the statement that

if the condition was bilateral it was invariably gouty or rheumatic, whereas if one-sided it was usually traumatic. He remembered that in the old text-books a cause given was walking with a round-headed stick. Amongst men that count money this contraction was very common on the right side but not on the left. He had to operate recently on a few cases occurring in cyclists, and the only cause he could give there was the vibration of the handle continually held in the palm of the hand.

Mr. Knott, in reply, said that typical cases of Dupuytren's contraction, from which he excluded those of traumatic origin, were, he believed, nearly always of the nature of rheumatic gout, which was one of the most symmetrical of diseases.

A New Operation for Cleft Palate.

Mr. E. H. Taylor described a new operation for cleft palate.

A Truss Gauge.

Dr. T. Kelly, of Enniscorthy, in introducing this instrument, said: The "Truss Gauge," which I have the honour of bringing before the Surgical Section of the R. A. M. I., consists of two steel truss springs, R. and L., which at the back overlap, and on the surfaces, where this overlaping takes place, there are marked divisions, and in each division a corresponding character or number. One spring is slotted, and through the slot a clamping screw passes to the other, so that when one slides on the other, and the necessary position has been fixed, the instrument can be retained in that position. The free terminals of the springs R. and L. are slotted and marked by graduations and corresponding characters. Into the slots are fixed by clamping screws pneumatic pads, bearing on their upper surfaces quadrants also marked and graduated. The different indexes are distinguished by markedly various characters to avoid confusion. The pneumatic pads are furnished with valves of the bicycle pattern, and with each instrument is supplied an inflator of uniform capacity, and the necessary inflation is indicated by the number of strokes of the inflator which it takes to fill the pads. There is a pneumatic pad on the spring to indicate by its distension the requisite lining for the truss. There are also two additional terminals, one for femoral hernia (curved), and one for umbilical hernia, and also for cases of extra large size. In the case with each set is a bundle of cards with divisions printed to correspond to the division on the "truss gauge," so that the necessary dimensions can be quickly filled in and transmitted to the instrument maker either by letter or telegram.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir J. W. Moore, B.A., M.D. Univ. Dubl.;
Ex-P.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four weeks ending Saturday, October 6, 1900.

IRELAND.

Twenty-three Town Districts.

The average annual death-rate represented by the deaths—exclusive of 8 deaths of persons admitted into public institutions from without the respective districts—registered in the week ending October 6 in the Dublin registration area and the twenty-two principal provincial urban districts of Ireland was 20·9 per 1,000 of their aggregate population, which, for the purposes of these returns, is estimated at 1,062,188. The deaths registered in each of the past four weeks, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Sept. 15	Sept. 22	Sept. 29	Oct. 6			Sept. 15	Sept. 22	Sept. 29	Oct. 6	
23 Town Districts	21·1	20·5	20·1	20·9	20·6	Limerick -	15·4	22·5	33·7	18·2	22·4
Armagh -	7·1	21·4	0·0	21·4	12·5	Lisburn -	17·0	17·0	8·5	8·5	12·8
Ballymena	5·6	16·9	28·2	11·3	15·5	Londonderry	20·4	14·1	23·6	20·4	19·6
Belfast -	19·0	18·0	16·1	18·9	18·0	Lurgan -	9·1	0·0	22·8	9·1	10·3
Carrickfergus	11·7	17·5	17·5	17·5	16·1	Newry -	16·1	28·2	20·1	8·1	18·1
Clonmel -	19·5	29·2	29·2	14·6	23·1	Newtownards	34·4	11·3	11·3	17·0	18·5
Cork -	21·5	19·4	21·5	22·1	21·1	Portadown -	12·4	18·6	6·2	12·4	12·4
Drogheda -	15·2	7·6	15·2	19·0	14·3	Queenstown	51·7	40·2	51·7	28·7	43·1
Dublin (Reg. Area) -	24·8	24·5	24·5	26·0	24·9	Sligo -	35·5	15·2	0·0	10·2	15·2
Dundalk -	8·4	16·8	8·4	16·8	12·6	Tralee -	22·4	22·4	0·0	33·6	19·6
Galway -	30·2	18·9	18·9	0·0	17·0	Waterford -	13·9	17·9	11·9	27·9	17·9
Kilkenny -	9·4	33·0	4·7	18·9	16·5	Wexford -	36·1	22·6	40·6	4·5	25·9

The deaths from the principal zymotic diseases registered in the 23 districts during the week were equal to an annual rate of 3·6 per 1,000—the rates varying from 0·0 in fourteen of the districts to 5·7 in Queenstown. Among the 130 deaths from all causes registered in Belfast are one from measles, one from scarlatina, 2 from diphtheria, 9 from enteric fever, and 11 from diarrhœa. The 32 deaths in Cork comprise one from scarlatina, one from enteric fever, and 4 from diarrhœa.

DUBLIN REGISTRATION AREA.

In the Dublin Registration Area the births registered during the week amounted to 175—96 boys and 79 girls; and the deaths to 182—93 males and 89 females.

Deaths.

The deaths, which are 31 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·1 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the area, the rate was 26·0 per 1,000. During the 40 weeks ending with Saturday, October 6, the death-rate averaged 29·7, and was 2·4 over the mean rate for the corresponding portions of the 10 years 1890–1899.

Thirty-eight deaths from zymotic diseases were registered during the week, being 8 over the number for the preceding week, and 13 over the average for the corresponding week of the past 10 years. They include 28 deaths from diarrhœa—25 of these deaths occurred in children under 5 years of age—5 deaths from whooping-cough, 3 deaths from enteric fever, and 1 death each from measles and erysipelas.

Tubercular disease caused 26 deaths—namely, 14 from pulmonary tuberculosis, 7 from tabes mesenterica, 3 from tubercular meningitis, and 2 from scrofula.

Diseases of the respiratory system caused 23 deaths, being 2 over the average for the corresponding week of the past 10 years, and 9 over the number which occurred in the preceding week. Of the 23 deaths 11 were due to bronchitis, 5 to pneumonia, 3 to croup, and 2 to pleurisy.

Convulsions caused the deaths of 15 children—7 of these were under one month old, 7 were over one month but under one year, and one was between one year and 5 years of age.

Cancer caused 7 deaths. One death was due to epilepsy, and 3 deaths were due to other diseases of the brain and nervous system

(exclusive of convulsions). Thirteen deaths were caused by diseases of the circulatory system.

Seven accidental deaths were registered.

STATE OF INFECTIOUS DISEASE IN DUBLIN.

(1.) Cases of Infectious Diseases Notified to the Public Health Committee of the Corporation.

Sir Charles A. Cameron, C.B., Medical Superintendent Officer of Health for the City of Dublin, has furnished the following information regarding the number of cases of Infectious Diseases in the City of Dublin, notified under the "Infectious Disease (Notification) Act, 1889":—

Week ending	15th September	...	... 65 cases.
,,	22nd September	...	... 78 cases.
,,	29th September	...	... 71 cases.
,,	6th October	...	... 56 cases.

Of the 56 cases notified, 9 were erysipelas, 24 enteric fever, 9 scarlatina, 4 measles, one diphtheria, 5 continued fever, one typhus fever, and 3 German measles.

(2.) Cases of Infectious Diseases under Treatment in Dublin Hospitals.

During the week ended October 6, 1900, 14 cases of scarlatina were admitted to hospital, 10 were discharged, and 53 remained under treatment at the close of the week. This number is exclusive of 6 patients under treatment at Beneavin, the Convalescent Home of Cork-street Fever Hospital.

Twelve cases of enteric fever were admitted to hospital, 17 were discharged, one death occurred, and 87 cases remained under treatment at the close of the week.

Two cases of typhus fever were admitted to hospital, 5 cases remaining under treatment at the close of the week.

No case of diphtheria was admitted to hospital, 2 cases were discharged, leaving 13 cases under treatment.

Ten cases of measles remained under treatment at the close of the week.

ENGLAND AND SCOTLAND.

The mortality in thirty-three large English towns, including London (in which the rate was 15·8), was equal to an average annual death-rate of 17·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·3 per 1,000, the rate for Glasgow being 19·9, and for Edinburgh 17·7.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of September, 1900.

Mean Height of Barometer, - - -	30·093 inches.
Maximal Height of Barometer (12th, at 9 a.m.),	30·574 „
Minimal Height of Barometer (27th, at 4 p.m.),	29·346 „
Mean Dry-bulb Temperature, - -	55·8°.
Mean Wet-bulb Temperature, - -	53·4°.
Mean Dew-point Temperature, - -	51·2°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·378 inch.
Mean Humidity, - - - -	84·8 per cent.
Highest Temperature in Shade (23rd), -	68·9°.
Lowest Temperature in Shade (12th), - -	41·2°.
Lowest Temperature on Grass (Radiation) (12th),	37·7°.
Mean Amount of Cloud, - - -	45·8 per cent.
Rainfall (on 10 days), - - -	·914 inch.
Greatest Daily Rainfall (on 17th), - -	·257 inch.
General Directions of Wind, - - -	W., N.W.

Remarks.

September, 1900, was a very fine and enjoyable month. The general distribution of atmospheric pressure over Central Europe and the southern parts of the British Isles was anticyclonic, and consequently much settled weather prevailed in those regions. Over Northern Europe and in Scotland, on the contrary, cyclonic conditions ruled for the most part, and the weather was more changeable and less fair. In the neighbourhood of Dublin absolute drought prevailed until the 17th, which was the first of the 10 "rainy days" in the month. From the 20th onward less settled weather was experienced and rain fell frequently, chiefly in the form of showers.

The diurnal range of temperature was very large at inland stations in both England and Ireland in the second and third weeks—at Loughborough, Leicestershire, the thermometer rose on the 13th from 40° to 75°; at the same station the thermometer fell on the 18th from 71° to 36° during the ensuing night. At Birr, King's Co., the range on the 13th was 32°—from a minimum of 38° to a maximum of 70°.

In Dublin the arithmetical mean temperature (57·6°) was decidedly above the average (55·8°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 55·8°. In the thirty-five years ending with 1899, September was coldest in 1886 and 1882 (M. T.=

53·0°), and warmest in 1865 (M. T.=61·4°) and 1898 (M. T. = 60·2°).

The mean height of the barometer was 30·093 inches, or 0·183 inch above the corrected average value for September—namely, 29·910 inches. The mercury rose to 30·574 inches at 9 a.m. of the 12th, and fell to 29·346 inches at 4 p.m. of the 27th. The observed range of atmospheric pressure was, therefore, 1·228 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 55·8°, or only 2·3° below the value for August, 1900. Using the formula, *Mean Temp.* = *Min.* + (*Max.*—*Min.* × ·476), the mean temperature was 57·2°, or 1·7° above the average mean temperature for September, calculated in the same way, in the twenty-five years, 1865–89, inclusive (55·5°). The arithmetical mean of the maximal and minimal readings was 57·6°, compared with a twenty-five years' average of 55·8°. On the 23rd the thermometer in the screen rose to 68·9°—wind, S.W.; on the 12th the temperature fell to 41·2°—wind, calm. The minimum on the grass was 37·7°, also on the 12th.

The rainfall was ·914 inch on 10 days. The average rainfall for September in the twenty-five years, 1865–89, inclusive, was 2·176 inches, and the average number of rainy days was 14·7. In 1871 the rainfall was very large—4·048 inches on, however, only 13 days; in 1896 no less than 5·073 inches fell on 23 days, establishing a record rainfall for September. On the other hand, in 1865, only ·056 inch was measured on but 3 days.

High winds were noted on 9 days, but attained the force of a gale on only one occasion—the 26th. The atmosphere was foggy on the 3rd, 7th, 11th, 12th, 13th, 16th, and 17th. A solar halo was seen on the 18th.

The rainfall in Dublin during the nine months ending September 30th amounted to 24·394 inches on 156 days, compared with 20·948 inches on 138 days during the same period in 1899, only 10·968 inches on 112 days in 1887, and a twenty-five years' average of 19·734 inches on 142·8 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was only ·695 inch on only 4 days. Of this quantity ·290 inch fell on the 29th. At that station the rainfall since January, 1900, has been 30·021 inches on 140 days, compared with 28·440 inches on 139 days in 1899, and 19·688 inches on 124 days in 1898.

At Cloneevin, Killiney, Co. Dublin, the rainfall in August was 6·06 inches on 17 days (the maximal fall in 24 hours being 1·95 inches on the 2nd), compared with a fifteen years' average

of 3·036 inches on 16·8 days. In September, ·70 inch fell at Cloneevin on 8 days. The maximal fall in 24 hours was ·28 inch on the 17th. There was an absolute drought until the 15th. On the average of fifteen years the September rainfall at this station has been 1·874 inches on 12·8 days. Since January 1, 1900, 25·14 inches of rain have fallen at Cloneevin on 154 days. The rainfall in the first nine months of the year at Cloneevin was 22·92 inches on 150 days in 1894, 21·58 on 129 days in 1895, 20·50 inches on 129 days in 1896, 22·91 inches on 158 days in 1897, 18·19 inches on 136 days in 1898, and 23·75 inches on 139 days in 1899.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, rain fell in measurable quantity on 6 days to the amount of ·904 inch, compared with 12 days to the total amount of 2·411 inches in 1899, 1·991 inches on 13 days in 1898, and 3·166 inches on 11 days in the same month of 1897. The maximal fall in 24 hours was ·351 inch on the 29th. Since January 1, 1900, the rainfall at this Second Order Station has been 25·048 inches on 136 days, compared with 26·159 inches on 129 days in the first 9 months of 1899. The highest temperature in the screen was 68·5° on the 21st, the lowest was 41·0° on the 26th.

At the Railway Hotel, Recess, Co. Galway, the rainfall was 3·793 inches on 15 days, ·750 inch being measured on the 26th. The corresponding figures for September, 1899, were—total rainfall, 4·673 inches on 26 days; maximal rainfall, 1·061 inches on 21st.

HAY FEVER AND ACUTE CORYZA.

B. J. Wetherby, Wilkes-Barre (*Medical Council*, November, 1899), calls attention to a new and very serviceable application of heroin, namely, its use in the treatment of hay fever and coryza. In these conditions he recommends the following formula :—Heroin, 1 grain ; Atropinæ Sulph, 1-25th grain; Caffein. Cit, 15 grains; Salophen, 75 grains. M. Ft. Caps No. XV. In the author's own case of hay fever one capsule was sufficient to relieve the sneezing and the profuse nasal secretion, and four capsules a day kept him perfectly comfortable. Since this favourable experience Dr. Wetherby has prescribed the same treatment in a number of cases of coryza and hay fever with equally positive results in every instance. He believes that by its use we can promise immediate relief to the large army of coryza patients so common at this season of atmospheric changes.—*The Laryngoscope.*

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"Enule" Rectal Suppositories.

It is now some time since Mr. H. S. Wellcome, of London, designed a new shape for rectal suppositories with the view of making their introduction into the rectum easier, and their retention more secure. The "Enule" rectal suppositories are bulbous at the end which is first pressed past the sphincter ani. As soon as this, the greatest, diameter has been introduced, the smaller "tail" follows, and the whole suppository is retained by the very contractile force of the sphincter, which used to make retention of the ordinary cone-shaped suppository often so difficult. Various drugs such as glycerine, belladonna, bismuth subgallate, hazeline, morphin hydrochloride, and quinine bisulphate have been made up in these improved suppositories. For rectal feeding also "Enule" suppositories of predigested meat and of predigested milk have been prepared. Each meat "Enule" contains the digested equivalent of half an ounce of fresh beef, and each milk "Enule" the digested equivalent of five drachms of fresh milk. "Enule" suppositories are supplied by Messrs. Burroughs, Wellcome & Co., in boxes containing one dozen.

The "Allenburys Foods."

This is the name chosen by Messrs. Allen & Hanbury, of Plough-court, Lombard-street, London, E.C., for their humanised milk foods, which are particularly serviceable for hand-fed children in summer weather. The milk used for the foods is treated almost immediately after coming from the cow, before, in fact, any fermentation has had time to take place, and so the risk of diarrhœa and the digestive troubles, so prone to arise from the use of tainted milk, are avoided.

Byno-hypophosphites and Byno-phosphates.

Messrs. Allen & Hanbury have recently introduced these preparations as improvements on syrups of the hypophosphites and phosphates. "Bynin" is an active liquid extract of malt. The diastase of the malt aids the digestion of starchy foods, and it is found from practical experience that byno-hypophosphites can be taken and absorbed when a syrup may not be tolerated. This renders byno-hypophosphites of special service to patients con-

valescing from acute diseases, when the digestive powers are often impaired. The preparation called "byno-phosphates" is a dietically improved chemical food, and will be found especially useful for growing and weakly children. As in the previous preparation, "Bynin" replaces sugar, thus giving digestive aid. It is much more palatable than the ordinary chemical food, and may be taken should this happen to derange the digestion of the child. Both preparations are said to be much more agreeable to take than the older syrups.

CORYZA.

Max Nassauer (*The Penn. Med. Journ.*, October, 1899), to abort an incipient attack of coryza recommends a weak, pale, pink solution of potassium permanganate. The nostrils are to be well rinsed with the solution. After drying the nostrils, a small plug of cotton is inserted far back in each side of the nose, and the cavities are then filled with the solution, the head being held back. The plug saturated with the solution is left in position for an hour, when it is to be expelled by blowing the nose.—*The Laryngoscope.*

A PECULIAR CASE OF NASAL OBSTRUCTION.

Lim Boon Keng, Singapore (*Scottish Med. and Surg. Journ.*, October, 1899), reports a somewhat unique case. While the patient was bathing a leech slipped into one of his nostrils; he had been unable to dislodge it, but found that when some fresh water was applied to the nostril, the leech elongated itself and moved about. When seen by Dr. Keng three months had elapsed since the leech had entered, and the patient had all the appearance of a man who had lost a quantity of blood. A pair of artery forceps were applied to the leech's tail and a few drops of chloroform were inhaled which caused the animal to drop out.—*The Laryngoscope.*

THE LATE DR. ARTHUR WYNNE FOOT.

Through the courtesy of Dr. Dawson Williams, Editor of the *British Medical Journal*, and of Mr. Francis Fowke, General Secretary of the British Medical Association, we are able to give an excellent likeness of our lamented friend and distinguished colleague, Dr. Arthur Wynne Foot. The likeness appears as a frontispiece to the present number of the Dublin Journal of Medical Science.

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OF

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DECEMBER 1, 1900.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XVIII.—*Fractures of the Pelvis.*[a] By E. H. BENNETT, M.D., F.R.C.S.I.; Surgeon to Sir Patrick Dun's Hospital; Professor of Surgery, Trinity College, Dublin.

THE fractures of the pelvic bones and their dislocations, which involve the brim or inlet of the true pelvis, are of great interest because of the great danger to life which they entail, and because of the difficulties which are met with in their diagnosis. Great violence is required in all but one variety to produce these lesions. The examination of the specimens with which the *post-mortem* room furnishes us, the demonstration of their complications, and the histories of injuries of extreme violence which accompany them, combine to suggest an over-grave opinion regarding them in the minds of students. Only this very day I was asked by one who watched the demonstration of two of these specimens—"Can a man ever recover from such injuries?" I replied—"I can prove the recovery by showing pathological evidence of it, and I have in practice seen at least four recoveries." To establish this fact I present an example of completely united fractures in the gravest variety of these injuries. I have no history of

[a] Read in the Section of Pathology of the Royal Academy of Medicine in Ireland, on Friday, June 12, 1900.

the case during life, but anyone conversant with fractures will admit at once that the patient from whom it was obtained lived years at least after its occurrence. The specimen is incomplete, only half the pelvis being preserved, but it is evident that the fracture involved the pelvic brim and sacrum in the lines of the oblique diameters of the brim, just as in this complete recent specimen, of which we have the entire history, as follows:—

F. M., aged thirty-nine, while on the roof of the Dublin City Distillery, Great Brunswick-street, on the 19th of May, 1898, was standing with other men on a plank which rested on the rafters and principals. They were tying the ends of two 32-feet scaffold poles. A stiff breeze was blowing from the south-east, and as an extra heavy blast came the man cried, "Hold tight, boys; that's a stiff one." In a moment the whole roof collapsed. One of the girders fell over the side of the building, bringing the men with it to the ground outside, a height of between forty and fifty feet. One of the men was killed on the spot, and was brought dead to Sir P. Dun's Hospital. The man from whom this specimen was obtained was brought to the hospital also, but alive. He had fracture of the base of his skull, of many ribs, and many minor external injuries. He did not regain consciousness, and died in three and a half hours after his admission. At the *post-mortem* examination the lower left true ribs and some of the costal cartilages were found to be broken, and the lung beneath the fractures was bruised and lacerated. The liver was bruised and showed several ruptures. The spleen was torn to the extent of an inch. There was blood extravasated beneath the pericardial covering of the pulmonary artery. Hæmorrhage had occurred into the areolar tissue around each kidney. The intestines were normal, except the descending colon and the rectum, which showed extreme subperitoneal blood extravasation. The bladder and urethra were uninjured. The diagnosis of fractured pelvis was easily made during the man's life, as abnormal movements of the pelvic bones were detected in taking the patient to bed, and crepitus was distinct between the fragments. It is clear that some part of the falling roof crushed this man's thorax, abdomen, and pelvis. There were no signs of blood from the urethra or bladder.

The next specimen I submit is of rarer character, and shows how difficulty may be present in diagnosis of fractured pelvis, even where many and great fractures exist.

J. C., aged sixty-five, fell off a ladder while working at the roof of a house in Little Ship-street on 7th April, 1898. As far as could be ascertained he fell on his left hip. He was admitted to a hospital, and died on 13th April, the death being certified to the Registrar of Deaths as having resulted from shock and hæmorrhage. On 14th April *post-mortem* examination was made by order of the coroner. There was no bruising or ecchymosis of the skin. The heart showed slight signs of endocarditis, otherwise it was healthy. The lungs were œdematous, and the right was adherent to the chest wall. The peritoneum contained a couple of ounces of clear straw-coloured serum. The peritoneum covering the left kidney and left side of the posterior abdominal wall was dark in colour, but its surface was free of any fibrinous exudation. In the pelvis, also, the peritoneum was of a dark colour because of blood extravasated beneath it. To the hand it gave a boggy feel, in consequence of the amount of blood lying beneath it, but its surface was not covered by any inflammatory product. On exploring the brim of the pelvis in the pubic region the sharp projection of broken bone could be felt. The spinal canal was normal, no clots or excessive fluid being present. The liver was enlarged, soft, with uneven surface, but it was not injured. The spleen was pale, soft, small, and adherent to the diaphragm, but uninjured. The stomach was normal, as were the intestines and the right kidney. The left kidney was surrounded by soft, dark-red blood clots, and a rupture was present on its external surface, with granulating edges. This rupture included the neck of a retention cyst. A tumour the size of a pigeon's egg was found growing into the centre of the right cerebellar hemisphere. It was firmly attached to the dura mater, over the centre of the right cerebellar fossa, and was very easily shelled out of the brain substance. Microscopically it was found to be tubercular, showing giant cells, caseation, and in places delicate connective tissue fibrils. The examination of the pelvis, prepared by careful maceration, is most interesting, for although there are many and extensive fractures none of them can be properly named complete. They are developed around the acetabulum, and were all due to great force reaching the left innominate bone through the head of the femur. The depth of the cup of the acetabulum is burst inwards and remains projecting into the pelvic cavity, fixed in its displacement by the incomplete characters of the fractures. Behind the acetabulum in the ala ilii a fissure passes up through the bone from the upper margin of the great sciatic foramen, but it terminates without reaching the crista ilii. On the inner aspect of the ala, a good distance behind the line of

fracture, seen externally, there exists a fracture passing through the brim of the pelvis upwards through the posterior part of the iliac fossa, but it, like the external, stops short of the crista ilii. Through the left wing of the sacrum there passes a fissure which can be traced both within the pelvis and outside along the back of the sacrum, through the line of the sacral foramina down to the lower and back part of the great sciatic notch. All these fractures exist without displacement, and are incomplete. The ramus of the pubic bone, both on the left and on the right, exhibits complete fractures, but without displacement.

In holding this specimen and compressing the several parts no abnormal motion or crepitus can now be obtained any more than during the life of the patient after his injury; so, as the bladder and urethra were uninjured and gave no symptom during the life of the patient, it can hardly be wondered at that fractured pelvis was not even suspected.

My next specimen I have obtained very recently, since I had written the notes of those just now shown. Everyone knows that in pelvic injuries caused by extreme force the head of the femur may be thrust through the acetabulum and be dislocated into the pelvis, but specimens of the kind are very rare. The last specimen I have shown is the incomplete form of this dislocation. In this we have the complete injury and the lines of fracture similar to those seen in it, only they are all complete.

A man of about thirty-two years of age, liable to epileptic seizures, was attacked by such, and after his seizure developed signs of acute mania, as had often occurred to him before. In this condition he leaped from the window of a house where he was lodged in the care of two male attendants. His fall was into the area of the house, a height of nearly forty feet. He was brought to Sir Patrick Dun's Hospital on the police stretcher, and lived for some hours, quite unconscious. He had fracture of the base of the skull, comminuted fracture of his lower jaw, fractures of his ribs and of his pelvis. This last only am I concerned with at present. There were no indications of injury to the bladder or urethra. The right ala ilii was very freely movable, and crepitus accompanied the motions of it. As the man was moribund no detailed examination was admissible, for at almost any movement of the sites of lesion his breathing stopped. At the *post-mortem*

examination the pelvic damage presented these characters—On displacing the intestines we discovered the head of the femur on the right side projecting into the pelvis, covered only by peritoneum. On removing the membrane all the soft tissues were found lacerated behind the acetabulum; even the obturator nerve is thrust inwards, torn from the side of the cavity; all muscular fibres carry fragments of the broken acetabulum. The cartilage on the head of the femur is injured in one place, and the remains of the ruptured ligamentum teres are seen attached to the pit in the bone. The innominate bone and sacrum are traversed by fractures like those of the previous specimen, but differ from them in being complete fractures.

I have not as yet obtained a well-marked specimen of the double vertical fracture of the pelvis. I mention it referring to Vollemier's plate, which I have had enlarged as a diagram, only to state that three times I have met it in the living, and have had the good fortune to reduce the displacements, and in each case to have perfect recovery. Lastly, I exhibit a specimen of the fractures of the pelvis as a whole, which occur in the rickets of the aged, which take place, and to some degree unite, without the knowledge of their existence being present, or the history of any injury. Fractures occurring in the same site as the ordinary traumatic cases in the sides of the obturator foramina, but in the ilium passing up from the top of the great sciatic notch and commonly bifurcating below the middle of the ala, but being incomplete, as the branches do not usually extend to the limits of the crista ilii.

Art. XIX.—*Porro's Operation (Extra-peritoneal)—A Successful Case for Ruptured Uterus, complicated by a Large Myoma and a Five and a Half Months' Pregnancy.*[a] By George Cole-Baker, M.D. (Univ. Dubl.); Ex-Assistant Master, Coombe Hospital; Ex-University Examiner in Midwifery and Gynæcology, Trin. Coll. Dubl.

Case.—I first saw the patient, Mrs. L. G., by request of Dr. Verney Furlong, at 2 p.m. on Sunday, 6th August, 1899, when I ascertained the following facts:—Patient was thirty-eight years old,

[a] Read before the Section of Obstetrics of the Royal Academy of Medicine in Ireland, on Friday, April 20, 1900.

and married just two years. She had an abortion in February, 1898, at about the third month. Her general health had always been good, and menstruation normal, though she has always suffered more or less from constipation. She was now pregnant (for the second time) from five and a half to six months.

On Wednesday, August 2nd, three days before I saw her, she had an attack of vomiting, and sent for Dr. Furlong. Was better next day, and went about her usual duties.

On Friday, 4th, took to her bed again with vomiting and "cramps" (?) in her stomach. This condition had persisted up to the time I saw her. Dr. Furlong had examined her per vaginam, and had sent for me because he could find no cervix uteri or external os.

On palpation I found labour pains existing, and the "fundus" (?) reaching nearly to the umbilicus. On making a vaginal examination I could at first feel no cervix or external os, but found the true pelvis tightly filled with a tense elastic tumour. After further and more careful examination I discovered the os (the posterior lip only of which I could reach with much difficulty) about two inches above the upper border of the symphysis pubis, and came to the conclusion that I had to deal with a case of retroverted and "incarcerated uterus" (posterior sacculation) with labour pains present. The patient's temperature and pulse were normal. Manifestly something must be done, and at once, or sooner or later rupture of the uterus would ensue.

The patient was put under chloroform, in the cross-bed position, and I attempted to replace the uterus; but with imperfect anæsthesia, a very low bed, and no assistance, I found it impossible to do so, and recommended the patient to come into the Coombe Hospital. She did so at 6 45 p.m. the same evening.

Having been properly prepared, she was profoundly anæsthetised, and Drs. Winifred Dickson (now Mrs. Martin) and R. H. Fleming, who were present, and invited to examine the case, confirmed my diagnosis, the former remarking "How very distinct the head is."

I found later that, during Dr. Fleming's examination, the uterus, owing to some unintentional manipulations of his, had slipped up out of the pelvis into its normal position. When it had done so it felt extremely like a uterus bicornis, the right horn being somewhat the larger and harder of the two.

The theory at the time adopted to account for this was that the sulcus between the apparent "cornua" was due to the pressure of the promontory of the sacrum upon the uterine wall during its incarceration in the pelvis. The os was patulous, and about the size

of half a crown. The patient was put to bed and given tr. opii ♏. xx. No uterine contraction was going on. She slept well during the night.

Here I insert the daily notes on patient's bed card up to the day of operation:—

Aug. 7th.—This morning pulse and temperature were normal; patient had a little vomiting, and was given pulv. bismuthi c. soda. Also had an enema, which acted well.

Aug. 8th, Tuesday.—Patient restless in early part of night, but after tr. opii ♏. xx. slept some hours. Temperature, a.m., 99·6°; pulse 100. Complains of pain if she lies on left side.

Aug. 9th, Wednesday.—Slept badly; complains of pain and extreme tenderness of abdomen, especially over what I have called the right cornu. A pessary which I had inserted on 6th inst., when uterus was replaced, was removed, a hot creolin 1 per cent. vaginal douche given, and, the abdominal pain being very severe, a hot belladonna stupe was applied; and later morph. sulph. gr. ¼ (hypodermically) was given. Highest temperature, 8 p.m., 99·4°; pulse normal.

Aug. 10th, Thursday.—On this date I came to the conclusion that this so-called right "cornu" was a "myoma" which had got damaged in the pelvis, and that the extreme tenderness was due to a local peritonitis. The patient winced if you looked at her abdomen. Dr. Smyly, who happened to be in the hospital, saw her and concurred in this opinion. The patient had a good night, and her morning temperature was only 99·2°, with a pulse of 89, but the local tenderness over the myoma much increased, and in the afternoon the temperature rose to 103·4°, and the pulse to 108. She was given phenacetin grs. 5, and later morph. sulph. gr. ¼ hypodermically.

Aug. 11th, Friday.—The patient had a good night, but her a.m. temperature was 103·6,° and her pulse 104. She had some vomiting, and the tenderness over the tumour (myoma?) was exquisite. I believed the myoma to be sloughing, and suggested laparotomy. About mid-day Dr. Kidd made a vaginal examination, and there were then no signs of impending labour present. Dr. Kidd was of opinion that the patient's condition was entirely due to a localised peritonitis, brought about by the pressure of the promontory (as I have already suggested), or by the manipulations resorted to in lifting the uterus up out of the pelvis, or by both, and that laparotomy was not indicated. At 6 30 p.m. that same evening the patient was delivered of a male fœtus about five and a half months. The membranes were intact. A uterine douche

(creolin 1 per cent.) was given. At 8 30 p.m. her pulse was 116, her temperature 103·2°. She was given brandy ʒss., and phenacetin grs. 5. At 11 30 p.m. temperature 104·4°, brandy ʒss., phenacetin grs. 10. Body sponged, and afterwards cold pack.

Aug. 12th, Saturday.—Brandy ʒss. every hour till 3 a.m., when temperature had fallen to 99°, but at 5 30 a.m. had again risen to 100·6°. During the day her temperature varied at times between 104°, 103·8°, 103·4°, and 99°. Pulse varied between 113, 124, 130, and 134. The patient's body was sponged several times; she was given brandy ʒss. every hour, and she got phenacetin grs. 5 twice, and morphia gr. ¼ once. She slept a good deal, and took nourishment fairly during the day. She was given phenacetin grs. 10 at midnight.

Aug. 13th, Sunday.—I saw the patient at 10 a.m. She had been rambling during the night, and had had three slight rigors. She looked as septic as she could be. Her temperature was, at 9 a.m., 100·8°, and her pulse 104. She was drowsy and dull, but when roused said "she felt splendid, and had no pain at all;" and there was scarcely any tenderness on palpating her abdomen.

I went at once to Dr. Kidd (Master of the Hospital) and told him I believed the woman would die if not operated on at once. Dr. Kidd came with me and saw her, and, when we had eliminated any "puerperal" element that could cause her condition, agreed with me. The lochia, I may mention, were perfectly healthy. At 4 p.m. her temperature was just 105°, her pulse practically countless, and she was more or less delirous—she was in fact moribund.

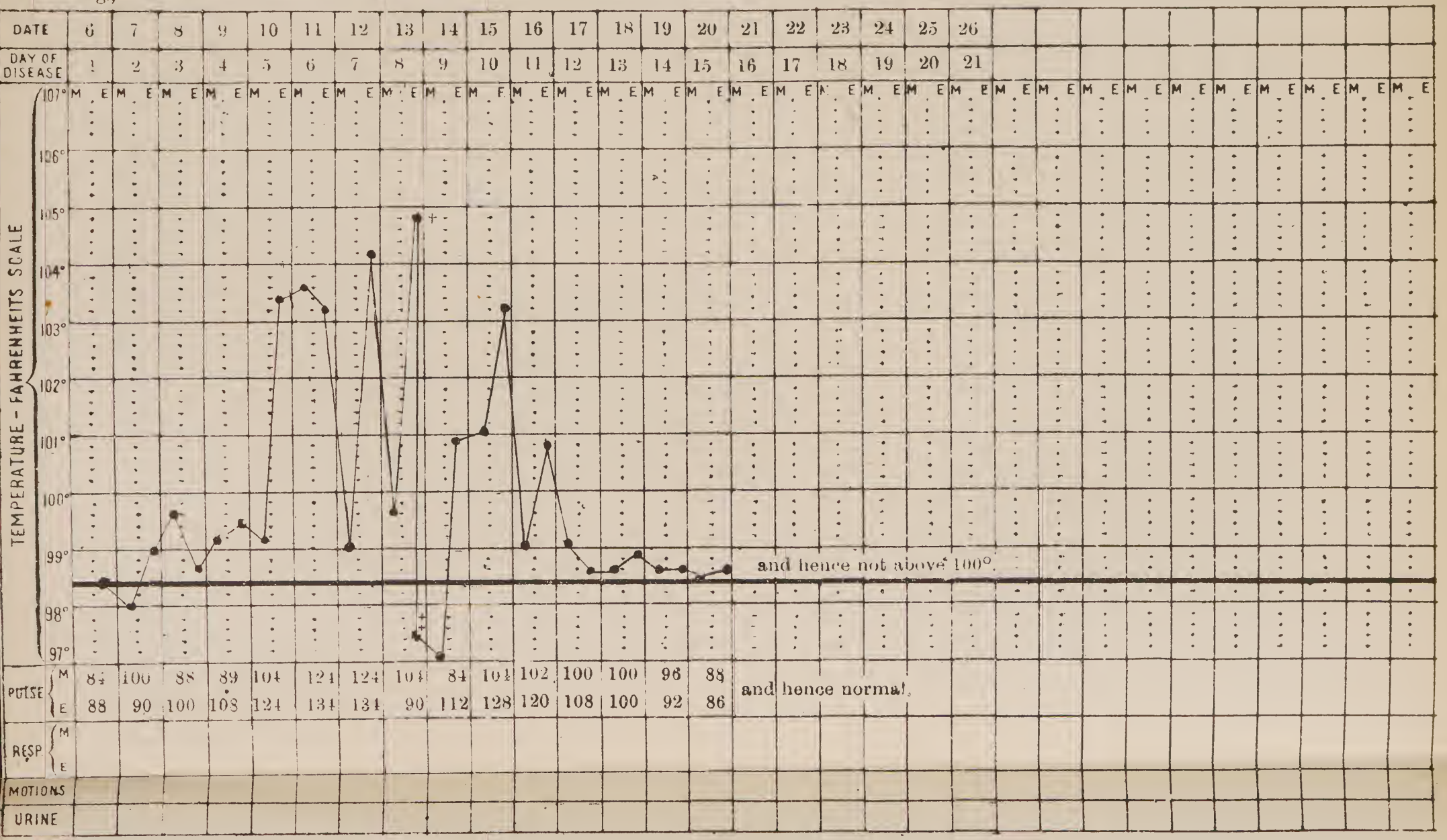
With Dr. Kidd's kind permission and assistance, at 4 30 p.m. I performed an abdominal hysterectomy by Porro's extra-peritoneal method. The operation lasted from an hour to an hour and a half, but the patient's aspect when it was over was considerably better than when she was put on the table. The appendages were removed along with the uterus. At 8 p.m. the temperature had fallen to 97° (nearly 8° in four hours), and the pulse to 90. The patient, except for a severe attack of diarrhœa, made an uninterrupted recovery, and was quite convalescent in twenty-six days.

I submit her temperature and pulse chart.

The sutures were removed on the ninth day, and the union was good. The stump was removed on twelfth day.

The suture immediately above and below the stump were so inserted as to "pick up" its peritoneal covering, and ensure its union with the parietal peritoneum; and this union was so perfect that, though both the above suture tracks and one other became

Aug., 1899.



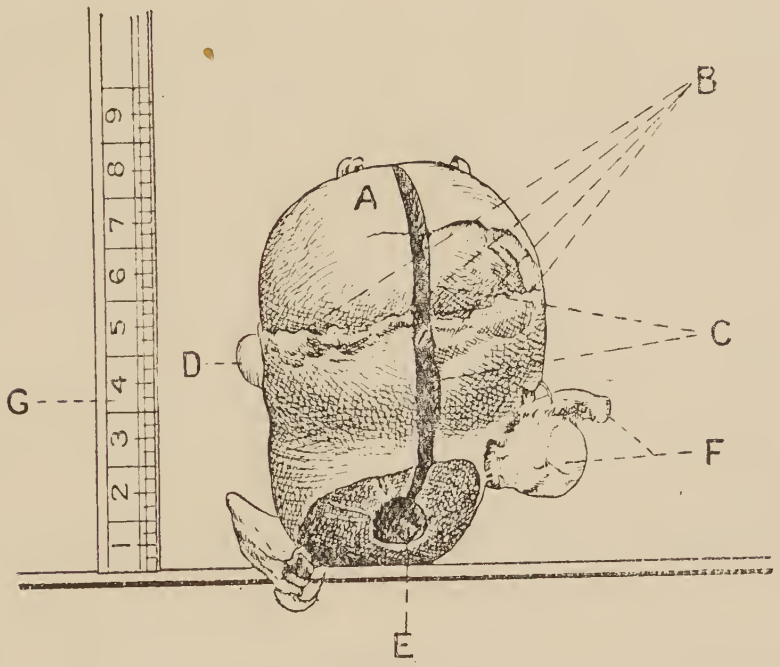
Temperature taken at 9 a.m. and 9 p.m.

+ Temperature at 4 p.m.; pulse, 160–180; operation at 4 30 p.m. on the 13th.

‡ at 8 p.m.

infected from the sloughing stump, there were no evil results whatever.

Finally, the abdominal incision healed up perfectly, and the union was so good that one could scarcely tell the stump had ever been brought into the wound at all. I examined the abdominal incision on the 4th of January last, and I could scarcely believe the cicatrix could have become so insignificant as it then was. The patient on this date, too, assured me she had never felt better in her life, and was putting up flesh, about which there was no manner of doubt. On resuming marital relations she at first felt considerable pain, but it gradually disappeared, and is now practically nil. She has no bladder trouble whatever, and, in fact, says she does not need to pass her urine nearly as frequently as she did for some months before the operation.



(Posterior surface of uterus.)

A. Myoma.
B. Jagged edge of rupture in fundus uteri.
C. Vertical incision (after removal) through myoma and cavity.
D. Small subserous myoma on anterior uterine surface.
E. Orifice of cervical canal at line of amputation. Small piece of decidua p. protruding.
F. Right tube and ovary.
G. Centimetre rule.

An examination of the tumour after removal revealed a condition of things that certainly I, for one, had not suspected.

The diagnosis of a myoma was correct, no doubt, but we

found that this myoma (which was about the size of a fœtal head at term) had caused a rupture of the uterus at the fundus between the two orifices of the Fallopian tubes, and that the tumour was sitting in the uterine wall much as an egg does in an egg-cup.

There had been no hæmorrhage whatever into the abdominal cavity, and all one noticed was some congestion of the blood vessels on the surface of the portion of the myoma that protruded through the rent in the uterus.

I have brought this case before the Obstetrical Section because it possesses, I think, certain points of interest for it; and I am anxious to have the opinion of the members on these points, which have most certainly been a puzzle to me. They are as follows:—(1) When did the uterus rupture? (2) Why did labour supervene so painlessly, rapidly, and so long (six days) after the replacement of the uterus? (3) What caused the sudden rise of temperature on the 10th of August, and the still higher rises on the 12th and 13th? I ask these questions for the reason that I have already suggested—that I believed suppuration was going on in the myoma; but, on incising it, nothing of the kind was found, and I am at a loss to explain the facts of the case.

It has been objected that the operation I performed was not Porro's, on the grounds that the patient was not "gravid" at the time. However, it was performed by Porro's method, and the uterus was a puerperal one at any rate.

Again, I have been asked—Why choose the extra-peritoneal method? I did not choose it. I adopted it as the most rapid method, for, in this case, time was everything; as when the patient was put upon the operation table I scarcely expected her to live to come off it.

It is early yet for me to express an opinion as to the merits of the various methods of performing partial or complete hysterectomy; nevertheless, where the vaginal and supra-vaginal portions of the cervix are healthy, and there is no cause for extra haste (as there was in my case), it is my firm conviction that Porro's retro-peritoneal method is the ideal hysterectomy.

One word as to the operation I performed. The tendency is, I believe, to be too greedy to drag the cervix up into the

abdominal incision far more than is at all necessary, and thereby bring about that painful dragging pain that is so frequent after these operations, in addition to the bladder trouble (difficulty of retention) that so often arises.

As to the merits of Doyen's method of performing hysterectomy, I can only say that, as I have seen it performed, or even as it is described by the inventor in his own book, I do not think it can claim to be a strictly aseptic method. The very fact that it is necessary to perform the operation at all implies more or less that the mucous membrane of the uterine cavity and cervical canal is in all probability not healthy, and in the process of drawing up the vaginal portion through the incision in the floor of Douglas' pouch it is quite possible to infect the peritoneum.

The chief merit of Doyen's method seems to me to lie in the fact (mentioned before this Section of the Academy by Dr. W. J. Smyly, on 26th May, 1899, when he exhibited the first uterus removed by this method in this country) that no big vessels are encountered till the operation is practically over, when they are secured with very great ease and rapidity, and thus, as a rule, any excessive hæmorrhage is avoided.

In conclusion, I will merely state that the most recent statistics (those of Dr. Henry P. Ingram, Buffalo, U.S.A.) go to show that spontaneous rupture of the uterus is a rare (1 in 4,000 cases) occurrence, and when it does occur is usually due to fibroid (subserous) tumours, perhaps, as in my case, complicated by pregnancy and displacement.

Art. XX.—*The Operative Treatment of Cleft Palate by a New Procedure.*[a] By Edward H. Taylor, M.D., B.Ch. (Univ. Dubl.), F.R.C.S.; Surgeon to Sir P. Dun's Hospital; University Examiner in Anatomy, Trinity College, Dublin.

The successful treatment of cleft palate by operative measures may be regarded as one of the most brilliant achievements of plastic surgery. Many ingenious devices

[a] Read before the Section of Surgery of the Royal Academy of Medicine in Ireland, on Friday, May 11, 1900.

have been planned for rectifying this form of congenital defect and for overcoming the difficulties attending the operation, as a glance into one of our standard text-books on surgery will show. The instruments recommended are legion, but my experience of them leads me to the belief that their efficiency is for the most part in the inverse ratio to their numbers, and, furthermore, I am quite convinced that the operative treatment of cleft palate is needlessly complicated by their employment; the procedures, also, for closing the cleft are not, to my mind, all that could be desired. The following method, which I have devised and carried out in my recent cases, has pleased me so well, and has so fully come up to my expectations, that I decided to bring it under the notice of this Section of the Academy.

It is applicable to those cases especially in which the cleft is complete, reaching the alveolar margin in front. The difficulties attending the treatment of such cases are usually very great, more particularly when the cleft in the hard palate is very wide, and when the soft palate is merely represented by weakly developed folds attached laterally to the pharyngeal wall.

There are certain facts which it is essential to bear in mind in connection with cleft palate operations. In the first place, the main artery distributed to the hard palate reaches it at its posterior part, having emerged from the posterior palatine foramen at the inner side of and somewhat behind the alveolus of the last molar tooth. In the palate this vessel takes a curved course close to the alveolar process, and its principal offshoots proceed from its inner concave border towards the cleft; it is deeply placed too, lying in immediate contact with the periosteum (Fig. 1). Secondly, the soft tissues which cover the hard palate—viz., mucous membrane, glands, and periosteum—are fused together in the closest manner, resembling in this respect the three outer layers of the scalp; it is not possible, therefore, to separate them from each other as definite layers. Thirdly, there is a considerable depth between the anterior extremity of the cleft in those cases where it terminates behind the alveolar border and the free edges of the incisor teeth. This is especially noticeable in highly arched palates,

and it explains the great difficulty encountered in closing this portion of the gap by any of the procedures commonly practised. The full appreciation of these facts has led me to devise and carry out the operation which I am about to describe.

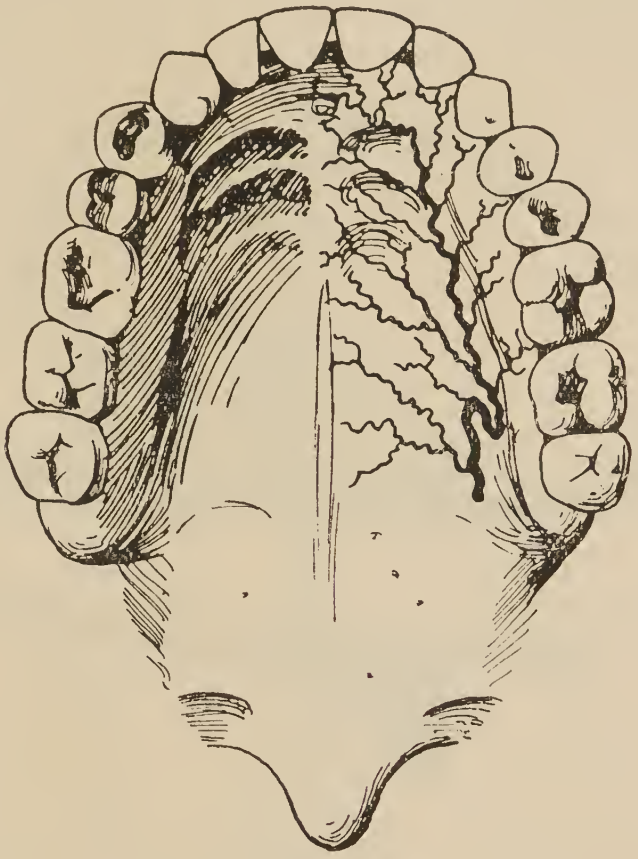


Fig. 1.

OPERATION.

The patient is placed on a low table, the head well thrown back, and the vertex looking directly downwards—Rose's position—and chloroform is administered. Smith's gag is then introduced into the mouth, and the edges of the cleft pared freely. The blood which quickly fills the mouth is removed by means of a suction apparatus, somewhat similar to that recommended by Mr. Robert H. Woods in connection with extirpation of the larynx[a] (Fig. 2). Throughout the operation sponges are dispensed with as far as possible, pressure with the finger on the bleeding point

[a] "Excision of Right Half of Larynx," by Mr. R. H. Woods. Transactions of the Royal Academy of Medicine in Ireland. Vol. XIV. 1896.

proving sufficient. A curved incision is now made on each side close to the alveolar margin of the palate, commencing posteriorly inside the last molar tooth, and curving round anteriorly to terminate in the cleft, and arranged at the same time in such a way that sufficient tissue is left immediately behind the incisor teeth to hold a suture subsequently.

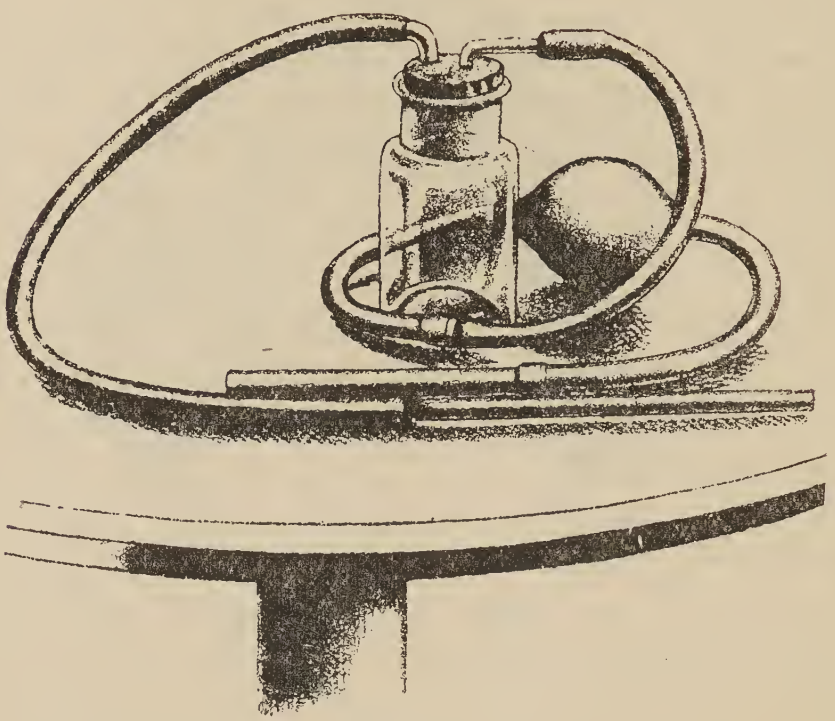


Fig. 2.—Mr. R. H. Woods' Suction Apparatus.

With this incision the posterior palatine artery is retained in the flap (Fig. 3). The latter is reflected by means of a rugine (Fig. 6), an instrument which enables one to lift the muco-periosteal flaps very rapidly and without laceration or serious damage. I regard the various forms of raspatory used for detaching the soft tissues from the palate quite unsuited for the purpose. Some are very narrow, with sharp-pointed tips, and consequently are in the highest degree calculated to damage the tissues which they are meant to detach. The rugine, on the other hand, which I employ has a fairly broad anterior extremity, and the inclination of its free edge is very abrupt, forming an angle of about 60° with the horizontal. It is therefore in no sense of the term a cutting instrument; but, while it ensures the

minimum of damage to the palate tissues, it separates the flaps with the utmost facility. I would lay stress on this point, since it is a recognised essential in plastic surgery that all flaps of tissue should be separated with as little damage as possible, and should have their blood-supply assured. I hold that both these conditions are fulfilled in the method I have described. The next step in the operation is to sever the connections between the hard and soft palate on their nasal aspects. This step is much facilitated by turning back the flaps which have been already detached from the hard palate, and a knife or curved scissors may be employed for the purpose.

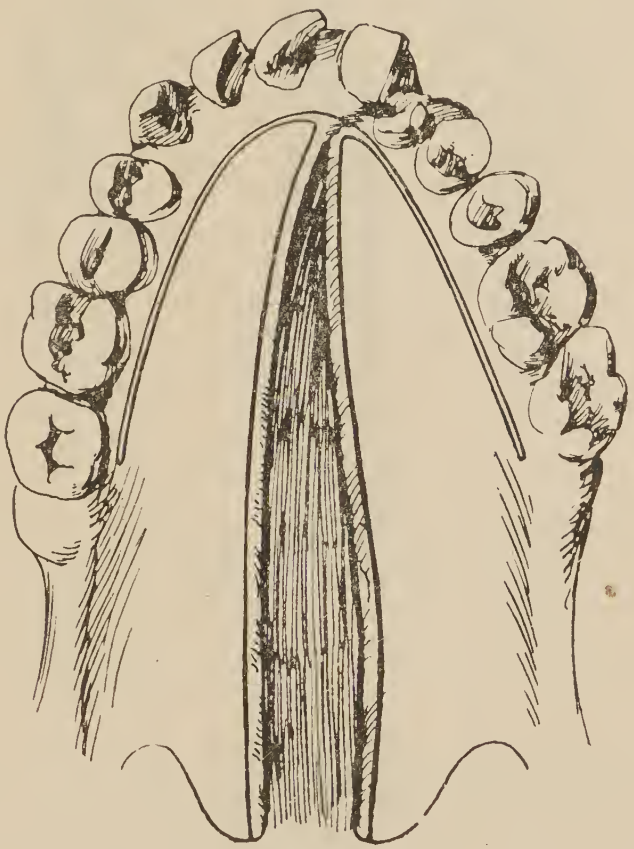


Fig. 3.

A word here about hæmorrhage. In all cases it is to be avoided as much as possible. Loss of blood is badly borne by young children, and may be followed by serious consequences. Free hæmorrhage, too, floods the mouth, and greatly obscures the confined field of operation. It can be obviated best, to my mind, by making the incisions as I have

recommended; and when the flaps are being separated any undue bleeding may be easily controlled by pressing these firmly against the bony palate and waiting for a few seconds. Therefore I would advise against too great haste at this stage of the operation, and that blood and saliva be removed from the mouth by means of suction rather than by vigorous sponging.

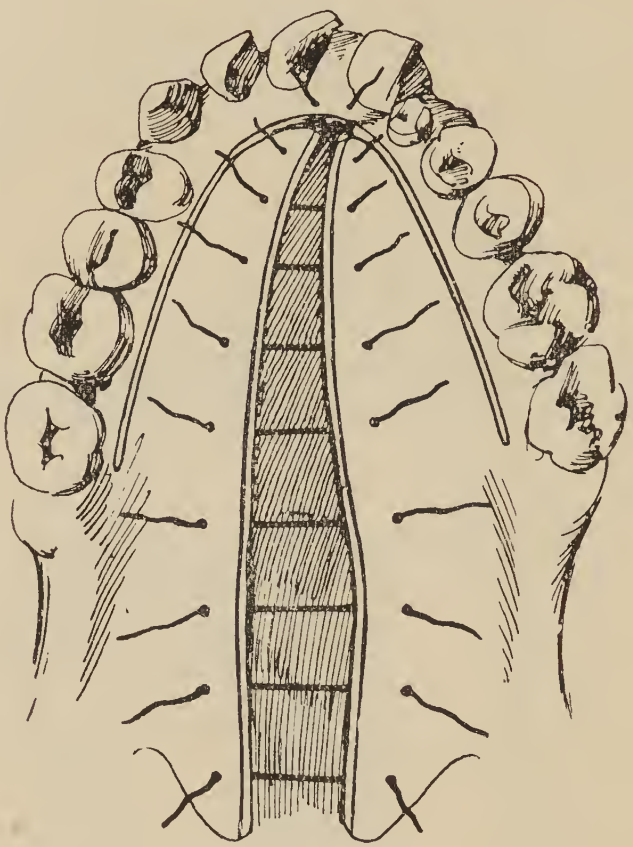


Fig. 4.

I usually employ silkworm-gut sutures. In introducing them it will probably be most convenient to commence behind and come forwards. Small *curved needles passed with a needle holder* may be used; but, if preferred, a curved needle in a handle may be substituted for them. It is very striking to observe the facility afforded by the mobility of the flaps in carrying out this stage of the operation. At the anterior extremity of the cleft the suture should be passed through the flap from its mucous to its periosteal aspect (Fig. 4); the free end of the suture is then carried through the gum, behind the incisor teeth in the reversed

direction—viz., from its deep to its superficial aspect. This suture anchors the flap in front during the process of healing. Should it be deemed insufficient *an accessory suture*

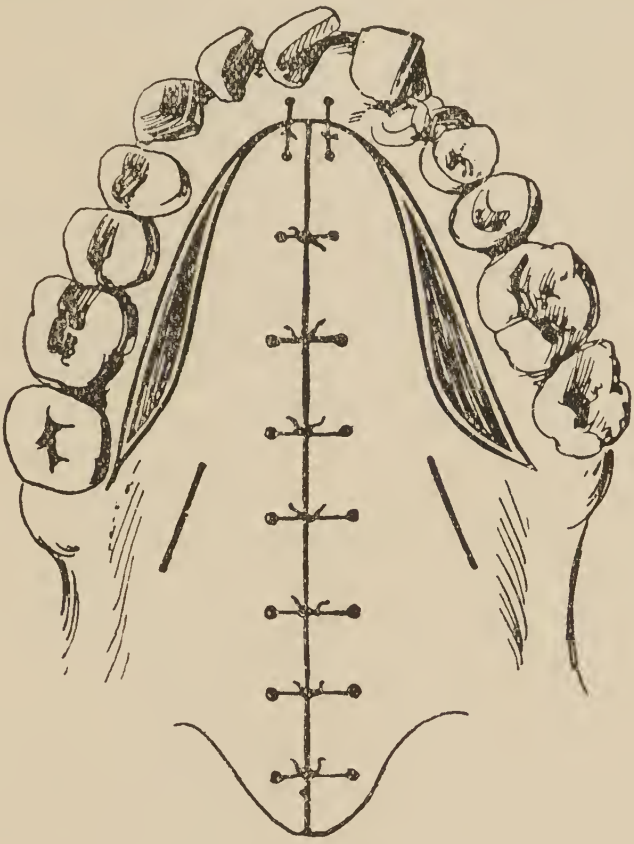


Fig 5.

passed further out on each side will afford ample security. Difficulty may be experienced in bringing the flaps into apposition at the level of the hard and soft palate, and seeing how unfavourable a high degree of tension is for

Fig. 6.

securing good and rapid union it will be well, following the advice of Dieffenbach, to make an antero-posterior incision in each side, about half an inch in length, at the inner side of the hamular process. These incisions, in addition to relieving tension, secure rest for the palate, owing to the division of

the fibres of the levator and tensor palati muscles; and any harmful traction influence which these might exert is therefore obviated.

In conclusion, let me summarise the chief advantages of the operation I have just detailed:—

1. It can be performed with greater ease and rapidity than any of the cleft palate operations with which I am acquainted.

2. It is not accompanied by troublesome hæmorrhage, as no large arterial branch is divided, and whatever hæmorrhage does occur may be effectually controlled by digital pressure.

3. The muco-periosteal flaps have their blood-supply assured. They are raised with the least possible damage; and this is a material advantage when dealing with the delicate and friable tissues of young children.

4. The free range of mobility of the flaps facilitates in a very marked way the introduction of the sutures; more especially is this the case at the anterior extremity of the cleft, which has hitherto been a difficult part to close.

5. Lastly, the operation is well adapted to young children. One of the main difficulties with them is the carrying out of the post-operatory details. A skilled nurse can do a great deal to promote a favourable result, and a few days before operation spent in making friends with the little patient will have a telling effect on the subsequent course of events.

ART. XXI.—*The Relation of Veterinary Science to Human Medicine.*[a] By SIR CHRISTOPHER J. NIXON, M.D., LL.D.; President of the Royal College of Physicians of Ireland; Senior Physician to the Mater Misericordiæ Hospital; and First President of the Royal Veterinary College of Ireland.

IN considering the question of delivering a formal address upon the opening of the session, I had decided upon not exercising the privilege which my position as President of the Medical Section confers upon me. The time at my disposal was too short, and the pressure of other work did

[a] Presidential Address delivered before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, November 17, 1900.

not permit of my dealing with any subject in a way worthy of its being presented before this distinguished Society. On reflection, however, I thought I might utilise the occasion to refer to a matter which, though it has more or less a personal bearing, still, in my judgment, is worth more than a passing note in connection with the future of Medicine in Ireland. As most of those present know, I occupy the position of President of the Royal Veterinary College of Ireland, and it has, I understand, been more than once made the subject of inquiry as to what connection a physician—what connection the President of the College in which we meet—can have with a school of veterinary medicine. I purpose in the few remarks which I shall make to answer this question.

The Presidency of the Veterinary College fell to my lot rather by accident. The late Rev. Dr. Haughton, one of the most distinguished amongst the distinguished men who were Fellows of the Royal College of Physicians, was one of those who, with Professor Cunningham, Professor FitzGerald, the late Right Hon. Christopher Redington, Professor Carroll, and myself, took the keenest interest in the estabishment of this college in Dublin, and when the charter of incorporation was granted, it was the desire of most of us that Haughton, *clarum et venerabile nomen*, should be its first president. He, however, wished otherwise, and suggested that I should fill the post, and so the position devolved upon me. I do not desire to enter here upon a discussion of the advantages, enormous and far-reaching as they are, which a school of veterinary medicine is certain to bring to the agricultural industry of the country, nor to dwell upon its usefulness in reference to the veterinary profession. I may merely observe what I am sure is the feeling of most of us, that it was singularly anomalous that until the present year Irish veterinary students were obliged to seek training in England and Scotland.

These are all matters more or less foreign to the aim and object of the Section of Medicine, but what may legitimately claim its attention is the consideration of the question as to what influence a school of veterinary

medicine is likely to exercise upon human medicine, and in what way that influence may be utilised for the benefit of the Dublin Medical School.

Whilst a very close connection existed from the earliest times between animal and human medicine—a connection as old as the time of Hippocrates, who made several investigations in subjects of comparative pathology, and Galen, who drew largely for his facts and comments from works published on veterinary medicine—the starting point of veterinary medicine as a science may be said to date from the establishment by Bourgelat, at Alfort, in 1766, of a school which has become the nursery of veterinary science, and one from which most similar institutions obtained their teachers.

Shortly afterwards the celebrated Vicq d'Azir, one of the Professors of the Alfort School, realising the advantages to be gained from the association of the two branches of medicine, wrote a pamphlet styled "Nouveau Plan de la Constitution de la Médecine, en France," published in 1790. His idea was that veterinary teaching should be made preliminary to teaching in human medicine, and should form the principle of instruction in human medicine, and to this course he proposed to give the name of Le Premier Degré. He urged that a veterinary school should be annexed to every medical college established in France. This suggestion received at the time such a degree of attention that Tallyrand urged its adoption in the "Report sur l'Instruction Publique," read before the National Assembly in 1790, and a proposal was made that veterinary teaching should form part of the National Institution at Paris. The idea was that as the suffering animal always appears as it is, without the disturbing influence of mind, the symptoms being the rigorous expression of diseased conditions, it would be of great advantage to medical students to be initiated in the study of disease generally by observing diseases of animals. It was a question of the advantages of testing rigidly the powers of observation, of noting strictly objective phenomena, conditions as regards animals offering the same difficulties in diagnosis as does the ailing infant or the comatose adult.

At the time that these proposals were being considered in France, St. Bell, a pupil of the Alfort School, may be said to have founded the Veterinary College of London. Upon the death of St. Bell in 1793 great difficulty was found in supplying his place, but on the recommendation of John Hunter and Cline two medical men were appointed—Coleman, who taught anatomy and physiology, and Morecraft, who, after some training in the French school, taught the practical details of the veterinary art; and it is a curious historical fact that Coleman, who was a fellow student of Sir Astley Cooper, performed many experiments upon animals in the College under the direction of Cline. Coleman by his great energy and by his scientific researches raised the College to a high standard of usefulness, and its students became qualified to hold commissions in the army after passing an examination conducted by eminent members of the medical profession.

Passing now from what may be regarded as an aspect to some extent academic in its nature, let us for a moment consider what have been the results attained from observing processes of diseases occurring in animals. The mere mention of the diseases that are communicated from animals to man would alone establish a close connection between animal and human medicine—anthrax and its varieties, malignant pustule and malignant œdema; tuberculosis, glanders and farcy, rabies, cowpox, foot and mouth disease, rinderpest, trembles or milk fever, different varieties of worms, bubonic plague, various forms of tineæ, various species of worms, mange, scabies, actinomycosis, and diphtheria.

The wideness of range of these different affections, as well as the importance of their recognition in man and their treatment, led the General Medical Council to formulate a recommendation to the various licensing bodies that candidates for a diploma in public health should produce evidence of having attended an institution where instruction was given on diseases of animals transmissible to man. But the diseases which I have mentioned represent but a fraction of the knowledge gained by the study of conditions of life and diseases in animals. Am I overstating the case when

I say that most of what we know of the problems in physiology and in pathology is derived from observations carefully conducted upon animals? The functions of the brain and spinal cord, the relations of the nervous system to the action of the heart and conditions of blood-pressure, the various problems in connection with digestion, and in reference to the various secretions, all have been determined by the results of such experiments, whilst to the same source we owe most of our knowledge of such diseases as tuberculosis, rabies, cholera, tetanus, septicæmia, Jacksonian epilepsy, myxœdema, &c. No investigation could be carried out in a more genuine spirit of scientific accuracy than the experiments of Horsley in producing myxœdema in the monkey, resulting in the effective method of treatment of the affection suggested by Dr. Murray. But it is especially in reference to bacteriology that I would point to the link between animal and human medicine. The discoveries of a chemist, a physicist, and a physician—Pasteur, Tyndall, and Koch—may well be said to have created an epoch in medicine, and their labours have placed bacteriology upon such a solid basis that for the first time laws of Public Health and Preventive Medicine can be formulated with absolute scientific accuracy. Since Davaine, thirty-five years ago, showed that anthrax was due to the presence of certain rod-like bacilli in the blood, the advance made in this branch of human science may be regarded as monumental. And we must not forget that the results were obtained from carefully observed conditions of disease in animals. The discoveries of Koch culminated in the discovery of the bacillus of tubercle, and the introduction of tuberculin as an infallible test for the existence of tuberculosis in cattle. Diphtheria is no longer the dread scourge it was since the discovery of its special micro-organism by Klebs and Löffler, whilst Roux in France and Behring in Germany have utilised the discovery by introducing the antitoxin which has been so valuable in the treatment of the disease.

The micro-organisms of pneumonia, of tetanus, erysipelas, septicæmia, and bubonic plague have been demonstrated, and methods of treatment, based upon the action of their

several antitoxins, are now being employed. We know what causes typhoid fever, and though we seem to have been powerless in arresting its progress in South Africa, can any one doubt but that in time, taking precautions to have a supply of pure drinking water, and methods employed for its routine bacteriological analysis, typhoid will cause as little dread, and be as little likely to cause panic or loss of life as the plague under the conditions of modern civilised life? The great plague of London, so graphically described by De Foe, killed 68,526 persons. Since the discovery of its special bacillus by Kitasato, and the knowledge we have gained of its mode of transmission and propagation, we may feel certain that the hygienic methods at our disposal will either avert its introduction or strictly limit its spread. In a way as interesting almost as a fairy tale is the account given by Koch in his *Reise-Berichte* of his travels in South Africa for the purpose of studying various diseases of men and animals, a *resumé* of which is published in the "Journal of State Medicine" by Professor McWeeney. Koch's investigations in South Africa embraced the study of rinderpest, endemic plague, tropical malaria, Texas fever, and the tsetse fly disease. Not being able to discover the bacillus of rinderpest he adopted the method followed by Pasteur in the case of rabies of trying to find a remedy, with the result that Turner and Kolle, to whom he handed over his work, found that the anti-microbic power of the serum used was most effectual in stamping out the disease. The researches made on tropical malaria correspond closely with those of Annett, Manson, and Ross, whilst Texas fever was shown to be produced by the parasite passing from the mother tick into her ova, with the result that the young ticks springing from these ova convey the infection.

In veterinary schools upon the Continent distinguished workers in the field of bacteriological science have kept pace with what was being done by those who were making investigations into diseases of both animal and man. Bouley, a veterinarian who eventually became President of the French Academy; Colin and Flourent, distinguished physiologists; Arloing, Nochard, who worked with Pasteur,

and Leclanché, bacteriologists—are all men who have attained the highest scientific position in France. Whilst in Germany, Schutz has been a collaborateur with Löffler, and Munk, the distinguished physiologist, is a professor of the Berlin Veterinary School. Johne, the veterinary professor of Dresden, may be said to have supplied us with most of our knowledge of actinomycosis, whilst another veterinarian, Thomassen of Utrecht, suggested the use of a specific in the treatment of the disease—viz., iodide of potassium. Perroncito, in Italy; Hess and Guillebeau, in Switzerland; Semmer, in St. Petersburg; Vennerholm, in Sweden; Degine, in Brussels—are veterinary professors who have all distinguished themselves by their researches in disease of animals communicable to man. Bang, in Copenhagen, has the great distinction of having almost completely eradicated tuberculosis from the entire of Denmark.

The progress made in the subject of bacteriological science, and the discoveries that followed the observation of diseased processes in animals, at last stimulated the profession in England into taking some action, with the result that the British Institute of Preventive Medicine was established in London upon the same lines as the Pasteur Institute in Paris, and that built by the German Government for Professor Koch. A sum of £56,000 was at once raised by public subscription, and a place was thus provided where researches could be made in connection with infectious diseases occurring in man and animals, and the methods of their prevention, whilst facilities were afforded for providing the material for inoculation against such diseases as tuberculosis, rabies, anthrax, tetanus, cholera, quarter evil, &c., so that those interested in this special line of study would no longer have to go to Berlin, Munich, Breslau, or to the Pasteur Institute in Paris.

It is in reference to this institution that an event of far-reaching importance helped to put it in the foremost rank as an institute of practical usefulness and research. An Irish nobleman, Lord Iveagh, suddenly announced that he proposed devoting £250,000 in furtherance of the objects for which the Institute of Preventive Medicine was founded.

It is sufficient to say in reference to this princely gift that the noble donor will have, I believe, a more than adequate reward in the relief which he brings to suffering humanity. As an Irishman, I cannot avoid feeling a more than passing regret that we had not some similar institution in Dublin to that of the British Institute of Preventive Medicine which would have been in a position to claim a share of this generous donation. I need scarcely remind my auditors that the British Institute of Preventive Medicine has now become the Jenner Institute of Preventive Medicine, the national home for bacteriological work and research. The prospectus of the Institute defines its object:—To establish an institution for the study and investigation of the best means for preventing and curing infective diseases of men and animals, and to provide a place where research can be carried on for that purpose. To provide instruction and education in Preventive Medicine for medical officers of health, medical practitioners, veterinary surgeons, and advanced students. To prepare and supply to those requiring them such curative materials as have been already found, or shall in future be found, of value in the protection of infectious diseases. The work of the institution is divided into three definitions:—

1. *Bacteriological Department.*—The work includes the following branches:—

(1) Bacteriology in relation to medicine and pathology.
(2) Bacteriology in relation to hygiene.
(3) Bacteriological chemistry.
(4) Photo-micrography.
(5) Original research work.

2. *Hygienic Department.*—Where a complete course is given to include all the instruction necessary for the diploma in Public Health.

3. *Hansen Laboratory.*—This is devoted to instruction and investigation in technical bacteriology for the benefit of agriculturists, chemists, brewers, &c.

Where, may I ask, could we find a more appropriate place upon which to graft an institute similar to that of the Jenner Institute of London, than upon the Royal Veterinary College of Ireland? Few will be disposed to deny the

assertion that it is to bacteriology we must look in the future for the progress, not alone of Preventive but also of Curative Medicine, especially as regards the rational treatment of infective diseases.

To me, speaking from an experience of a quarter of a century as a hospital physician, nothing is more unsatisfactory than our method of modern therapeutics—system it can hardly be called. One might be tempted to say that a belief in the efficacy of the drugs prescribed in the ordinary routine of practice was in direct ratio to the prescriber's mental weakness, and that a little leaven of healthy scepticism would help both the physician and his patient. Might we not apply to the modern therapeutist, Cato's description of Portius :—

> "Thy steady temper, Portius,
> Can look on guilt, rebellion, fraud, and Cæsar
> In the calm lights of mild philosophy."

Take the list supplied by a fashionable chemist, of the animal substances mainly available for the purpose of making an income for the manufacturer. Tabloids of cerebrin, spinal cord, pineal gland, pituitary gland, thyroid gland, uterine substance, ovarian substance, salivary gland, spleen substance, suprarenal substance, didymin, prostate gland substance, &c., &c.

It is said that the use of the organs and parts of the body dates back to the earliest ages of medical practice, but we now seem to be pushing the doctrine of *similia similibus curantur* with a vengeance.

By an extension of this principle you might hope to tame a shrew by injecting her with the serum of a carefully selected Mark Tapley, or cure a dipsomaniac by using that of an individual who demands that Parliament should prevent the manufacture of all forms of alcoholic drink. What we sadly want in Dublin is some strong stimulus for the development of scientific teaching and research work. Clinical medicine continues to hold the high position which it has always held, and the traditions inseparably bound up with the names of Graves, Stokes, Corrigan, and Robert Smith are fully maintained by the clinical teachers of the present day. Owing to many

circumstances, the consideration of which it is unnecessary to enter upon here, we cannot claim that in scientific medicine we have reached the level of the German or French schools, and we have had to regard ourselves in physiology, pathology and chemistry as largely their debtors, not alone in research work, but in the ordinary material for teaching. This is to some extent a humiliating admission, but it is one that is perfectly intelligible when one considers the apathy and indifference of the State to scientific progress here and in the sister country.

It seems to me that we are entering upon a new era, and that the establishment of a Veterinary College in Dublin, supported by State funds, will supply the stimulus which is so desirable and so opportune. It will shortly, I believe, commence, under the direction of the Department of Agriculture and Technical Education in Ireland, research work in connection with rabies and the development of bovine tuberculosis.

If, as I hope and believe, we shall have established in connection with the Veterinary College a Jenner Institute for Dublin, may we not look forward to a great and flourishing centre of human and veterinary science which will redound to the credit of our country. In any movement which may be inaugurated to bring about this most desirable result, I sincerely trust the Royal Academy of Medicine will take an active, sympathetic, and a patriotic part.

TUBERCULOSIS OF THE SUPRA-RENAL CAPSULES WITHOUT ADDISONIAN SYMPTOMS.

M. Michaux (*Soc. Anat.*).—An autopsy in this case revealed nodular infiltration, with caseation of both kidneys and of the ureters. The ureter of the right side was changed into a rigid tube dilated and ulcerated; the bladder and the prostate were infiltrated with bacillary nodules; the genitalia were healthy. The supra-renal capsules of both sides were infiltrated with tubercle commencing to undergo caseous degeneration; withal the patient had not a symptom of Addison's disease—no muscular weakness, no gastric or intestinal troubles, and neither the mucous membranes nor skin gave any evidence of pigmentation.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Die organischen Salze im menschlichen Organismus, nach den Grundsätzen der modernen Chemie systematisch dargestellt. Von Dr. R. Brasch. Erste Abtheilung. Wiesbaden: J. F. Bergmann. 1900. Pp. 88.

The work, of which this is the first instalment, is an attempt to study the chemical changes which the inorganic substances undergo in the animal body according to the principles of modern theoretical chemistry. As the author truly says, this subject is as yet a blank page in medicine. Long and arduous work will be necessary, many errors will have to be committed, before it can be filled up with certain data. But however difficult the work may be, it must be undertaken, if Physiology, and with it Pathology and Therapeutics, are not to fall altogether behind Chemistry and Physics.

The work is to consist of three parts, dealing with (1) the chemical constitution of the inorganic salts in the human organism, (2) the importance of the inorganic salts for the oxidation processes in the human organism, and (3) their importance for the development of energy, or the energetics of the human organism.

The first part is divided into three chapters. The first treats of ions in general—of those elements and groups which act always as kations, or as anions, and those which sometimes act as one, sometimes as the other.

The second part deals with the inorganic salts in the human body—the salts of the blood, the hydrochloric acid of the gastric juice, the secretion of urine, the excretion of carbon dioxide, and the maintenance of the alkalinity of the blood.

In the third part are considered the inorganic salts in the different cell systems. Here we find sections on the absorption of inorganic salts, the salts of the blood corpuscles, of the bone cells, of the kidneys, the functions of

the inorganic salts in the cells, the osmotic pressure, and the physico-chemical properties of the cell membrane.

Throughout, the subject is clearly and lucidly treated, and may be read with advantage even by those who possess only a very slight acquaintance with modern chemical theory. Necessarily it is largely theoretical; but not only the physiologist, but the therapeutist and the physician will find in its pages much to interest and to suggest work in different directions.

We would cordially recommend Dr. Brasch's book to the attention of all those who recognise that it is only through chemistry that medicine can become a science.

Flesh Foods, with Methods for their Chemical, Microscopical, and Bacteriological Examination. A Practical Book for Medical Men, Analysts, Inspectors, and others. By C. AINSWORTH MITCHELL, B.A. (Oxon.); F.I.C., F.C.S. London: Griffin. 1900. Pp. 336.

THIS is an exceedingly useful book, and one the compilation of which must have cost considerable labour. It will be found invaluable by every one who has to do with animal food stuffs, but particularly by analysts, food inspectors, and medical officers of health. Its scope is very wide. Although dealing principally with muscle it contains much information on connective-tissue, blood, fat, sausages, oysters, and other things which do not strictly come under the head of flesh proper.

The earlier chapters deal with the structure and chemical composition of muscular fibre and of connective-tissue and blood. The flesh of different animals is then considered—fish, flesh, and fowl. In Chapter IV. the methods for the examination of meat are described, and a useful scheme for carrying out of the examination is given.

A good account is given of the methods by which animal fats should be examined, and the various means by which the individual constituents may be determined.

The methods used for the preservation of meat are next described, and methods to be employed in the examination of canned meat are given. The advantages and defects

of the different chemicals used as preservatives are fully noticed, and methods for the detection of these drugs are described. An entire chapter is devoted to the composition and analysis of sausages. Another chapter deals with meat extracts and flesh peptones, and another with the cooking of flesh. The different poisonous substances which may be found in flesh, whether derived from the food of the animal, generated in the living cells of the animal, or produced by bacteria, are fully described, and directions given for their detection. In this connection there will be found a good account of the symptoms of ptomaïn poisoning and of botulism.

In the chapter on animal parasites the life-history of the various sporozoa, tæniæ, flukes, and trichinæ is described, and the text is illustrated by many good drawings.

Chapters on the bacteriological examination of meat, and a good account of the different ptomaïns, with the methods for their isolation and detection, conclude the volume. There are many excellent drawings illustrating the letterpress, and a coloured plate showing the colour scale employed in Eber's hydrogen sulphide test for unsound meat. A full index adds greatly to the value of the work.

So far as we can judge the descriptions throughout are not only full but accurate. We have met a few trifling errors, as, for instance, the formula for muscarine is given as $(CH_3)_3 \equiv N\begin{smallmatrix}\swarrow CH(OH)\cdot CH_2OH \\ \searrow OH\end{smallmatrix}$ or $C_5H_{15}NO_3$ whereas it should be $C_5H_{13}NO_2$ or $N\begin{cases}(CH_3)_3 \\ CH_2-COH \\ OH\end{cases}$

A Text-book of Anatomy. Edited by Frederick Henry Gerrish, M.D., Professor of Anatomy in the Medical School of Maine, Bodowin College. With 950 illustrations in black and colours. London: Henry Kimpton. 1899. Pp. 917.

This text-book is the work of six American authors, one of whom is the editor, Professor Henry Gerrish, A.M., M.D.,

Professor of Anatomy in the Medical School of Maine, and Consulting Surgeon to the Maine General Hospital, Portland. In addition to his duties as editor, Professor Gerrish is responsible for the Introduction, the Elementary Tissues, the Muscles, the Fasciæ, the Heart and Respiratory Organs, the Lymphatics, the Cerebro-Spinal Axis, the Tongue, the Ear, the Organs of Digestion, the Urinary System, the Ductless Glands, Relational Anatomy, and the final chapter on Practical Anatomy.

The Embryology is the work of Professor James P. M'Murrich, A.M., Ph.D., Professor of Anatomy in Michigan University, Ann Arbor. The Bones, Articulations, and Veins are by Professor George Woolsey, A.B., M.D., Professor of Anatomy and Clinical Surgery in the Cornell University Medical College, New York; Visiting Surgeon to the Bellevue Hospital. The Arteries are the work of Professor Arthur D. Bevan, M.D., Professor of Anatomy in Rush Medical College, Surgeon to the Presbyterian and St. Luke's Hospitals, Chicago. The Nerves, the Skin, Nose, and Eye are by Professor William Keiller, F.R.C.S. (Edin.), Professor of Anatomy, University of Texas, Galveston (formerly of the Edinburgh Medical School). And, finally, the Organs of Generation have been written by Professor George D. Stewart, M.D., Professor of Anatomy in the University and Bellevue Hospital Medical College, New York City; Surgeon to the Bellevue Hospital.

The result of the joint labours of the several contributors and the publisher is a handsome volume of over 900 pages with numerous illustrations, many of which are coloured.

The publisher's opinion of the work is set forth in a special—and, we might add, somewhat self-satisfied—note, which immediately succeeds the preface. "Perhaps," it says, "the obvious magnitude of such an undertaking as the present may be connected with the fact, often observed, that although America has enriched medical literature with systematic treatises on all other branches, its anatomical instruction has been derived from foreign works. The creation of another volume would, however, be justified neither by this fact alone, nor by the growing and natural wish of American readers for works by home authors. The very

multiplicity of books on anatomy proves that the science is advancing in discoveries of fact, relationship, and methods of presentation, and moreover that no volume fully satisfies all requirements."

"No effort has been spared by those responsible for this work to render it one in which Americans might take a justifiable pride, and which the fraternity of medicine abroad might equally welcome as a contribution to the advancement of a vital science. . . . The series of illustrations in the present work is original to an unusual degree, and far more extensive than hitherto attempted."

Thus the publisher—the authors, in the preface, are much more modest. They have "long felt the need of a text-book" (the expression has a familiar ring about it) "which, while presenting the essential facts of human structure, judiciously avoids the unimportant and exceptional."

This is the keynote of the preface, and, indeed, of the whole book, which aims at including "in systematic array those portions of anatomical knowledge which, with our present information, are seen to be necessary preliminaries to the intelligent study of physiology, surgery, and internal medicine". . . . Whilst excluding "the much greater collection of facts, which, however important to a work which designs to be exhaustive, have no known practical bearing, or only such. . . . as will make them available for a useful purpose once or twice in a generation."

"The authors have endeavoured to make a text-book which, as far as possible, shall stand in the place of a living teacher to the student. . . ."

One statement in the publisher's note is certainly true—namely, that whilst America has contributed numerous—and we would add excellent—treatises to medical literature, it has not in the past (nor even now) produced an anatomy worthy to rank with its great text-books on surgery, gynæcology, &c. The treatises of Leidy, Haynes, Boenning, have, of course, appeared in America, but they have never been really serious rivals to our home-grown works. Nor, unless we are very much mistaken, will the book under review become the standard work on anatomy in America. At least, if it attains that position, the American anatomical reader must be much

more easily satisfied than his British brother. We do not suggest that the book is by any means a bad one—it certainly is greatly in advance of Haynes, Boenning, and, perhaps, of Leidy too—but it cannot compare with the works of Quain, Cunningham, Ellis, Macalister, &c.

There are three chief objections in our mind to the work under review. In the first place it is wanting in detail—we do not refer to that useless heaping up of intricate and unintelligible trifles with which we have no sympathy, but it is deficient in the detail necessary to convey a working idea of the parts which it describes. For instance, here is the full and only description of the adductor longus muscle, which we have selected at random to illustrate our meaning. "ADDUCTOR LONGUS—'The long adductor.' *Situation*, in the inner side of the thigh. *Origin*, the body of the os pubis near the angle. *Direction*, down, out, and backward. *Insertion*, the inner lip of the linea aspera about the middle third of the thigh. *Action*, adduction, flexion, and external rotation of the thigh. *Nerve*, the obturator." For the position, relations, and all other facts and explanations connected with the muscle, the reader must depend on the illustrations, and the same applies to all other muscles.

Secondly, it is wanting in originality if we exclude the order in which some of the subjects are treated, the selection of matter, and the outline keys furnished for many of the illustrations (after the fashion of those in Professor Thomson's Anatomy for Artists), which are usually excellent. But in the book generally, with very few exceptions, there is no evidence of research, or of originality in the true sense. Again, and notwithstanding the publisher's statement that the illustrations are "original to an unusual degree," there is a sad lack of originality in the illustrations, most of which are taken from Testut's anatomy. For instance, there are thirty-five pictures illustrating the organs of generation, and every one, without exception, is from the author mentioned. It is true that there are some original pictures, many of them diagrams, and the keys already referred to, explanatory of Testut's pictures of the muscles (which are excellent), but otherwise all illustrations are borrowed—in fact, there is hardly a single original illustration of a pretentious

character in the whole work. We have no sympathy with this wholesale borrowing of illustrations. We look upon the pictures as one of the most important features in an anatomy, and we think that no one author has a right to borrow another's work in this way—even with acknowledgments—for a book which aims at no originality in the text, unless he is prepared to describe the book as a modified form of the original author's work. In other words, if Testut's illustrations were removed from Gerrish's anatomy, comparatively little of worth (except the keys already referred to) would be left. These keys, which we have spoken of more than once, are outline pictures of the bones in black, with the outlines of certain muscles shown by red lines, and their attachments by red marks, which are placed beside Testut's picture of the corresponding part, to which they act as keys.

Thirdly, the book is wanting in accuracy, and lest we should be charged with unfairness in any unfavourable comments which we have been compelled to make we have picked out a number of examples: For instance—Page 56, the dentine is "developed from closely packed *white fibrous tissue*, which becomes infiltrated with lime salts." (The italics in every case are ours.) Page 87, the salivary glands are developed as "*tubular* evaginations" of the epithelium of the mouth cavity. Page 91, the pancreas is formed from a *single* (dorsal) evagination of the duodenum only. Page 149, we still read of the *horizontal* ramus of the pubes, a ramus which forms an angle of over 50° with the horizontal. Page 152, the gluteus medius is attached only to the oblique line on the outer surface of the great trochanter, not to the surface above it. Page 154, the *two* heads of the gastrocnemius are attached above and behind the two condyles. Page 174, the roof of the tympanum lies *external* to the eminence of the superior semicircular canal. Page 368, "on the right wall of the *atrium* (of the right auricle) is a series of . . . musculi pectinati." On pages 384 and 385 we still read of a transverse and a descending portion of the arch of the aorta, terms which ought to have been discarded long ago. Page 427, the gastric artery passes along the lesser curvature *to the pyloric opening*. Page 429, the splenic artery runs along the *upper surface* of the pancreas. Page 430,

the inferior mesenteric artery passes *between the layers of the meso-colon*, &c. On page 478, Testut's faulty picture of the gastric vein is given. In a book which professes to give attention only to matters of importance and practical utility we fail to see why the special diagram of Arnold's nerve has been introduced at page 594. Page 609, the median nerve, in passing under the annular ligament, is *invested by the synovial membrane.* Page 700, the chief bulk of the soft palate is constituted by *muscles*, and 701, the *azygos uvulæ* makes "the bulk of the uvula." Page 705, the absorption of the roots of the temporary teeth is said to be due to the *pressure of the permanent teeth*—an exploded idea. Page 708, the many ducts of the sublingual gland are found *in the region of the frœnum* of the tongue. Page 711, the relations of the tonsils are almost neglected; this, too, in a practical work. Page 712, the œsophagus presents "slight lateral bends *of no importance.*" We always thought that œsophagotomy was performed on the left side on account of one of these bends. On the same page a picture of Testut's, which makes the trachea and œsophagus begin at too high a level, is reproduced. Page 714, we think that the lower horizontal line adopted in subdividing the abdomen is not at all as good as Cunningham's intertubercular line; it makes the iliac regions much too small. The mid-Poupart lines do not "fairly apportion each of the three zones," as stated, particularly in the female. The gross anatomy of the stomach and duodenum is extremely sketchy and incomplete. Figure 776 appears to us to be inaccurate in the rendering of the peritoneum. Page 727, under the heading of the cæcum there is not a single word about its position and relations. In Figs. 791 and 792, from Testut, the anal canal is incorrectly pictured, and this without any reference in the text to the inaccurate rendering. Page 732, the description of an important organ like the rectum is very poor. Page 734, the gland of Blandin is "beneath the *lateral margin* of the tongue near the tip" (the two glands almost meet in the middle line, on the under surface). Page 736, we have never heard before of anterior, posterior, and *upper* surfaces on the pancreas; a lower has been described. All of the pancreas except the head is said to be "quite movable"—a

statement with which we cannot agree. Page 741, the orientation of both figures on this page is wrong. Page 743, the reflection of peritoneum from the liver—between the left and Spigelian lobes—is inaccurate in Fig. 803. Page 745, the round ligament is said to do its share in holding up the liver; we imagine that that share is nil; as the ligament passes from the liver downwards to the umbilicus it is difficult to see how it can support the liver. Page 749, the transverse mesocolon is said to cross the abdomen "at the level of the *third portion of the duodenum.*" Page 782, the picture of the left suprarenal body in Fig. 850 (from Testut) is inaccurate, both as regards its position and its vein. Fig. 855 is very poor anatomy—the symphysis pubis is nearly vertical, the prostate is too far back, the rectum is too low, &c. The paragraph on the "Disposal of Waste," at page 884, is very amusing reading to a British anatomist. Students are told when dissecting that "small fragments should be deposited on a piece of paper and the collection from each day's work placed in a box provided for the purpose, which should also receive the large masses as they are removed, and the box should be buried at the close of the dissecting season, or as soon as it is filled, if that be earlier." Strange instructions for the students! It certainly sounds very primitive to our ears.

We might briefly give our views of the various sections as follows:—The introduction we will pass over; all introductions are of about the same value. The chapter on the elementary tissues, &c., is fair, but sketchy. The chapter on embryology, though short, is, on the whole, very satisfactory. The bones and the joints are well done, but are at times wanting in detail. The muscles we have already referred to; on the whole we do not much object to the principle of cutting down of their description as here practised, but we are satisfied that too little has been left to convey an accurate picture of the parts to the student. The chapter on the fasciæ is good, but this cannot be said for the heart and the arteries, although the veins are well done. The lymphatic system is very brief, but on the whole, perhaps, it will attract the student's attention more than a longer description. The brain and spinal cord are treated in a rather novel, and, we may add, a satisfactory fashion. The nerves

are distinctly good. The sense organs are not quite so satisfactory. The digestive system is very weak, which is much to be regretted owing to its practical importance. But the organs of generation are good.

The last 30 or 40 pages of the book are devoted to "Relational Anatomy," and consist chiefly of a series of large illustrations of frozen sections from Braune; a number of excellent photographs of various parts of the human body, beautifully reproduced, and furnished with outline keys after the style of Thomson, to show the surface form of the body, and the structures on which it depends. In addition there is a good series of "normal skiagraphs" as in Cleland's anatomy.

The book is got up in the best American style, which means that its paper, printing, illustrations and binding, leave nothing to be desired.

We have tried to be quite impartial in our review of this work, but we fear, on the whole, that our opinion cannot be described as a favourable one. It appears to us that, with the exception of a few good chapters, most of the book is the work of authors to whom the claims of practice leave too little time for anatomical research and literature.

Diseases of the Tongue. By HENRY T. BUTLIN, F.R.C.S., D.C.L.; Surgeon to St. Bartholomew's Hospital; formerly Erasmus Wilson Professor of Pathology, and Hunterian Professor of Surgery at the Royal College of Surgeons; and WALTER G. SPENCER, M.S., M.B. (Lond.), F.R.C.S.; Surgeon to the Westminster Hospital, and in charge of the Department for Diseases of the Nose and Throat; formerly Erasmus Wilson Professor of Pathology at the Royal College of Surgeons. Illustrated with eight full-page Chromo-Lithographs and 36 Engravings. Cassell & Co. 1900. Pp 475.

IN the preface to this new edition, in the preparation of which Mr. Butlin was assisted by Mr. Spencer, the authors state that they trust it may be useful to all those members of the profession who need help in the diagnosis and treatment of the more common diseases of the tongue, or who

happen to meet for the first time with one of the rarer affections, and who would know where and under what circumstances similar cases have been seen before. The reputation of the authors is sufficient guarantee that their work will be thoroughly done. As a comprehensive and clear account of the diseases of the tongue this work easily takes first place. A reference to the list of authorities quoted will show how deeply the literature of the subject has been consulted, and this, coupled with the extensive experience of Mr. Butlin, who devoted a good deal of his time to this subject for the past fifteen years (since the appearance of the first edition), assisted by that of Mr. Spencer at the Westminster Hospital, should absolve us from speaking critically of the book. The chapter on the anatomy of the tongue is entirely new and complete, the lymphatics and lymphatic glands therewith coming in for special notice.

In the chapter on congenital defects of the tongue a timely warning is given against early and free division of the frenum in case of tongue-tie, after which apparently trivial operation many serious results have followed, while not a few cases ended fatally. In most of the slighter cases the development has merely lagged behind, and will be completed as the child grows after birth. The real persisting cases are excessively rare, most surgeons never having seen a congenital case. It is only for these latter cases that operation is required.

In the chapter on chronic inflammations leucoma comes in for a very exhaustive description, for the treatment of which disease the authors strongly condemn the use of caustics, as whatever danger of the development of cancer exists before will surely be increased by their use. Similarly they state it is unnecessary to resort to excision of the patch in its early stages, as the scar following its removal is just as liable to give rise to trouble in such a tongue as the patch itself. Decided treatment is reserved for any threatening induration about the patch.

In the chapter on tuberculous affections of the tongue the prognosis of tuberculous ulcer is said to be almost as unhappy as that of carcinoma. Not only is the disease fatal, but it is usually so within a few months, or from one to two years, and its downward course is accompanied by great distress and pain.

In connection with carcinoma it is the authors' opinion that the disease is a local one, limited to the part in which it originates, the immediately adjacent tissue and neighbouring lymphatic glands, so that if these parts to which it spreads either directly or through the medium of the lymphatics were completely removed a cure of the disease might be confidently expected. Early diagnosis here, as in other cases of cancer, seems to be the great secret of success, provided, of course, that a complete operation such as the authors recommend be performed.

This complete operation of Mr. Butlin consists in the removal of the tongue by the buccal method as a preliminary step, and then when the stump has healed and the patient is able to take plenty of nourishment he attacks and completely removes the glands, carrying his dissection down along the carotids in the neck, removing the submental, submaxillary, the carotid, and superior carotid or parotid lymphatic glands, as well as the surrounding tissues, including the submaxillary salivary glands, perhaps also the sublingual gland, and often a part of the parotid salivary gland. A careful watch is then maintained on the glands of the opposite side of the neck, and on the first sign of enlargement of any of these a similar procedure is carried out on that side.

Nothing we have yet seen can equal the beauty of the chromo-lithograph illustrations of the different conditions described. In each plate there are three figures, making thus 24 beautiful coloured illustrations of the text. We heartily congratulate the authors on the excellence of their joint production. The book is well bound, the paper good, and the type clear and easily read.

A Treatise on Appendicitis. By JOHN B. DEAVER, M.D.; Surgeon-in-Chief to the German Hospital, Philadelphia. Second Edition. Thoroughly Revised and considerably Enlarged. Illustrated with 22 full-page Plates. London: Rebman, Limited. Pp. 300.

THE fact that a second edition has been called for only four years after the appearance of the first bears ample testimony to the esteem in which the book is held by the profession. The

book is virtually rewritten; one of its most noteworthy features is an entirely new chapter on the pathology of the disease, by Dr. A. O. J. Kelly, Director of the Pathological Institute of the German Hospital. The work opens with a carefully-written and beautifully-illustrated chapter on the anatomy of the appendix. The pathology is discussed under the following heads—(1), The Lesions of the Appendix; (2), The Peritonitis and its Consequences; (3), The Bacteriology; (4), The Pathogenesis.

Nothing could be more complete than the manner in which each of these heads is treated. The factors which seem to render the appendix less resistant than other portions of the intestinal tract to the onslaughts of bacteria and other determining causes of appendicitis are among the following:—"The precarious blood-supply and consequent anæmia of many of the appendices; alterations in the nerves supplying the appendix; the evidences of retrogression of the appendix, indicating, as they do, defective resistant power; while the factors that in the appendix give rise to increase in the virulence of the bacteria normally present in the intestine are primarily such as interfere with thorough drainage of the organ, added to which is the relatively large amount of lymphoid tissue in the appendix—a tissue which is especially prone to become inflamed on exposure to even slight irritation by bacteria and their toxins."

In discussing the symptoms Mr. Deaver gives us the results of a large practical experience and very careful analysis, from which one of the most important points demonstrated is the complete absence of any constant relationship between the symptomatology and the pathological alterations. The diagnosis is ably and fully discussed. In the treatment Mr. Deaver strikes the keynote when he says, "While it is impossible to formulate rules that shall govern the treatment of all cases of appendicitis, I am, nevertheless, convinced that it may be stated as a maxim that unless there be some constitutional contra-indication the appendix should be removed immediately if the diagnosis has been made early." It is a fact that a certain percentage of cases will temporarily recover without operation; some patients may even have but a single attack, but it is nevertheless true that

no one can foretell which case will terminate favourably, or which will progress to perforation or gangrene, with their attendant peritoneal and other complications and sequelæ. "Appendicitis is a surgical disease, and should be treated in accordance with the best dictates of surgical practice." This is a distinct advance, grounded upon sound reasoning, over the methods of procedure advocated by surgeons in this country.

In conclusion, we heartily congratulate the author on the success of his efforts, and strongly recommend the careful perusal of the treatise to physicians, surgeons, and general practitioners alike, feeling sure that they and the community at large will be greatly benefited thereby. The publishers are also to be congratulated on the excellent manner in which they have reproduced the plates, a good many of which are beautifully coloured, and most of which are original.

The American Year-book of Medicine and Surgery: being a Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-books of the leading American and Foreign Authors and Investigators. Collected and arranged, with critical editorial comments, under the editorial charge of GEORGE M. GOULD, M.D. London: Rebmans, Limited. 1900.

SINCE the last edition of this valuable handbook it has been bound in two volumes—a distinct improvement. A volume of fifteen hundred pages is too weighty to hold in the hand whilst reading.

Some few changes have occurred in the editorial staff, the most important of which is the resignation of Dr. Ginteras, who has gone to live in Havana, Cuba. Dr. Gould has withal an excellent corps of sectional editors, and the editorial comments are judicious and terse, and add greatly to the value of the quoted articles.

The sectional editors do not think their duty is completed by a judicious use of scissors and paste—they take a much higher standpoint; and instead of scraps provide a well-digested and carefully-edited *résumé* of the whole literature

of the subject which appeared during the previous year. Space does not allow of our illustrating this by more than one example—to wit, the article on cerebro-spinal fever, edited by Drs. Stengel and Edsell. They commence with a *précis* of the Report on Cerebro-spinal Meningitis presented to the Board of Health of the Commonwealth of Massachusetts, based on 111 cases of the disease occurring in the hospitals in Boston. The epidemic of 1897, during which this study was made, centred in Boston.

The disease is described as an acute infection produced by the meningococcus. The seat of the disease is the meninges of the brain and spinal cord.

Though the portal of entrance is unknown, the possibility of entrance from the nasal mucous membrane is considered. It is possible that the organisms reach the nose from the middle ear. The meningeal lesions are restricted to the pia-arachnoid, and consist of or assume a purulent character. Secondary invasion of the substance of the brain and cord is habitual, even to the depth of the ventricles in the brain. In part these deeper lesions consist of purulent infiltration around the blood-vessels, and in part, and more diffusely, of proliferative changes in the neuroglia, and degenerative changes in the ganglion cells and nerve fibres.

The more certain diagnosis is by cultures from spinal fluid procured by lumbar puncture. Early in the disease the fluid contains pus cells, later in the disease it is clearer and free of pus cells.

One of the most striking peculiarities of the disease is the tendency of the inflammatory lesions to extend centrifugally along the nerves. Infection of the lung occasionally occurs, with a tendency to the formation of several foci or areas of consolidation.

As to the symptomatology, they note that there are no prodromata; the outset is sudden, with emesis, pain in the head, and stiffness, pain and muscular contraction of the neck, extending to the back muscles, and later to those of the lumbar region; there is usually delirium; in many cases unconsciousness passing into deep coma.

The complications include joint lesions, for which no satisfactory account can be given. Degenerative lesions of the

nerves were found in all cases in which they were looked for. As to the contagiousness they note that the evidence, on the whole, is that "the disease is incapable of being transmitted from one individual to another."

The mortality in the epidemic in Boston reached 68 per cent. The epidemics usually last more than a year, and then decrease, but do not wholly disappear. There are grounds for believing that some sporadic cases of cerebro-spinal meningitis are of an epidemic form. No known treatment seems to have any influence on the disease. The disease is rare in persons over 35 years of age.

The authors then enter into a description of the many forms of meningitis and the causes to which they are due, and their differential diagnosis.

Professor Osler's address (June, 1899) to the West London Medical and Chirurgical Society is next considered. Osler notes the tendency of the epidemics of cerebro-spinal fever to occur in waves or periods, and quotes from the recent collective investigation of Surgeon-General Wyman, of the Marine Hospital Service, in which the prevalence of cerebro-spinal fever during the past year in 27 States and in the district of Columbia is referred to.

The localisation of the disease in one city or in the neighbourhood of one city is commented upon; and its limitation to one section of the city, as at Philadelphia and Washington, is referred to.

The similarity of pneumonia and cerebro-spinal fever in the matter of epidemicity is of more than passing interest, though the analogies are less close than is maintained by those who believe in the identity of causation. In one of his cases the meningococcus was found in the blood.

The variability of the organisms found and their development in suitable cultures is fully dealt with.

Of lumbar puncture Osler considers it as "a simple, quite harmless procedure, and in the majority of cases can be done without general anæsthesia and with the aid of a local freezing mixture. A dry tap is rare in cerebro-spinal fever."

We read that "Kernig's" sign was present in all cases. A full description of this valuable diagnostic sign in cerebro-

spinal fever was given in the number of this Journal for April, 1900, in Dr. Bewley's Report on Practice of Medicine.

Under the heading Ætiology Hünermann's paper is considered pretty fully, for his results are at variance with the great mass of authoritative work on epidemics. The editors consider that the author confuses the staphylococcus and the meningococcus.

Kolleston and Allingham's bold procedure in performing laminectomy and draining off the spinal fluid is included in the article, with the annotation—"This operation has been undertaken in a number of cases of which we have knowledge, but in none except that referred to was the result favourable."

We think that nothing could be better than the selections made for the different sections of the book, and every section bears evidence of careful editing. With this year-book at hand the practitioner has a well-digested summary of the medical progress throughout the world—told with sufficient fulness to be of use to him in practice. The practitioner who is so unfortunate as not to possess a copy of Gould's Year-Book labours under a great disadvantage, for with its aid he would have the confidence begotten of a knowledge of the therapeusis of to-day—a knowledge that his duty to his clients demands of him.

We have given one illustration of how well the editing of one section is done in order that from it our readers may judge all.

A Short Practice of Gynæcology. By Henry Jellett, B.A., M.D., Dublin, F.R.C.P.I., &c. London: J. & A. Churchill. 1900. 8vo. Pp. 436.

The success which attended Dr. Jellett's treatise on Midwifery—already in its second edition—has well prepared the way for this, its companion, volume. We are of opinion that this work establishes the writer's claims to successful authorship in a manner that the Midwifery did not. When it was compiled the author had but a small practical acquaintance with his subject, and was, in consequence, content to accept the teaching he had received from others

almost in its entirety. It, in fact, fairly represents notes taken from the admirable lectures of Dr. W. J. Smyly, the former Master of the Rotunda Hospital. Here, on the contrary, the author has allowed his individuality to appear, and a work has been completed characterised by carefulness in its detail, together with a considerable knowledge of contemporary literature. These features will at once raise it far above the level of the ordinary type of cramming manual.

Chapter I. deals with the history and physical examination of the patient. It rather gives one the impression that the author had put it together in haste, and it has suffered much from curtailment. Symes' position, for example, receives no mention, nor is this the only omission of importance that could be named. Furthermore, we note an inaccurate statement—namely, that the lithotomy position is the usual one in which a patient is placed to carry out the bi-manual examination.

Chapter II. treats of disorders of menstruation. It is short, well conceived, and sufficiently instructive.

Diseases of the bladder, vulva, and vagina next come under consideration. The inflammatory affections are well classified here, and should prove of use to the gynæcological student. A large amount of information has been compressed into the few pages allotted to the section, which renders it interesting by its very compactness.

Chapter VII. deals with diseases of the uterus at length. The author tackles the vexed question as to the exact meaning to be attached to the terms "versions" and "flexions." He has chosen—like many others before him—to define these in a manner that appeals to himself, nor is there any exception to be taken to his definitions from a theoretical standpoint.

Dr. Jellett holds that a version results in every instance when the axis of the cervix is turned away from the perpendicular; and that a flexion results when the axes of the cervix and body do not coincide. For our part we think these terms lose their clinical usefulness when thus defined. We know that certain diseases have a tendency to displace the uterus so as to make an obtuse angle

between its body and cervix behind. Many will be perfectly justified in still considering such a displacement as a retroversion, and distinguishing it from their conception of a retroflexion, which they would consider as forming a right or an acute angle between the body and cervix behind, or, to speak in more precise terms, between the axis of the cervix and body of the uterus. The justification for defining the terms by the approximate size of the angle is that it helps materially towards elucidating the causation of many malpositions.

By far the greater portion of this work is allotted to operative surgery. The practising surgeon will hardly find the majority of operations here dealt with described sufficiently in detail to make them generally useful to him. On the other hand, students soon weary of such reading; particularly as they know that this class of information is seldom an essential for the passing of their examinations. We note with surprise that Schroeder's hysterectomy takes precedence of all other methods for the removal of a myomatous uterus. It alone is described with any attempt at fulness, and is deemed worthy of three large woodcuts. On the other hand, neither Kelly's nor Doyen's operations receive anything approaching adequate treatment. Moreover, there is no illustration whatever given to help towards a correct understanding of the latter's operation.

There are other minor points in this book that we should like to see altered. Furthermore, it contains a larger amount of information than can with advantage be dealt with in so small a work. It is, nevertheless, crisp, instructive, and at times most interesting reading, and withal probably as good a book of its size as has ever been published by an English firm, and one of which we as Irishmen have certainly every reason to be proud.

Electricity in Gynæcology. By Richard J. Cowen, L.R.C.S.I., L.R.C.P.I. London: Baillière, Tindall, & Cox. 1900. Crown 8vo. Pp. 132.

This is a little work on the method of using electricity in the treatment of gynæcological diseases, and is "particu-

larly directed to the general practitioner." It is optimistic in its tone, and leads one to suppose that most gynæcological complaints, or, at any rate, most gynæcological symptoms, can be cured by electricity. If the author would only relate to his readers his royal road to diagnosis, the book might be of value. Until he does this it is useless to tell a general practitioner, or for the matter of that, a specialist, to "puncture" a hydrosalpinx "with a trocar" (from the vagina) and "evacuate the fluid through a gold-plated cannula insulated to within a short distance of its extremity," &c. By the time the ordinary individual had diagnosticated a hydrosalpinx, the tube would be so very nearly removed that it is doubtful if it would be advisable to postpone the removal in order to try the effects of electricity.

A Manual of Midwifery. By ALFRED LEWIS GALABIN, M.A., M.D. Cantab.; F.R.C.P. Lond.; Late President of the Obstetrical Society of London, &c., &c. London: J. & A. Churchill. 1900. Fifth Edition. Post 8vo. With 298 Engravings. Pp. 870 and xix.

DR. GALABIN'S "Manual of Midwifery" has reached that stage in its career at which reviews are no longer necessary to its well-being. At the same time we should not like to allow the fifth edition of so excellent a manual to appear without paying some compliments to its general excellence, and perhaps accompanying them by a few remarks on its apparent shortcomings. The work is a most admirable compendium of English obstetrics, and is written in a clear and agreeable manner. It has been brought up to date by careful revision, especially of the chapters on extra-uterine fœtation, puerperal septicæmia, and deciduoma malignum. Twenty-nine new figures have been added.

Perhaps the most remarkable addition to the book is to be found in the sections on Accidental Hæmorrhage. Dr. Galabin describes the treatment of this complication by "Plugging the Vagina," and not only does he describe it, but he goes on to say that "Experience seems to justify this treatment." It is very fortunate that Dr. Galabin, the

author of the fifth edition of "A Manual of Midwifery," cannot be brought up for examination before Dr. Galabin, the author of the fourth edition of the same work, as "a question on this subject is frequently a fatal one in examination, especially if plugging the vagina be suggested as treatment."

Pleased as we are to see Dr. Galabin at last accept as justifiable this most important mode of treatment, we do not like to see him expecting it to do too much. Plugging the vagina is not "especially suitable for cases of concealed accidental hæmorrhage if uterine action is absent and great collapse exists." Smyly, who introduced the practice into the Rotunda Hospital, and whom the author quotes as an authority, always condemned its use in such cases. We take the same definition of concealed accidental hæmorrhage as does Dr. Galabin—*i.e.*, hæmorrhage in which no blood, or scarcely any, makes it appearance externally—and we must not be understood as condemning the use of the plug in those cases in which an external hæmorrhage has supervened on a concealed hæmorrhage. Such an occurrence shows that the uterus has sufficient tone to enable it to react against the pressure caused by the concealed hæmorrhage, and so to force some of the latter externally, and hence indicates that there is no risk, or a much diminished risk, of blood collecting in the uterine cavity above the plug. In concealed hæmorrhage we have no such proof. The danger of this condition, as Dr. Galabin very rightly says, "lies not in the blood being unable to escape, but in the uterus being so inert that it allows itself to be distended without expelling the blood." It has never been recognised or taught at the Rotunda Hospital that the vaginal plug would restore the tone of the uterus in these cases. It may be that such is the case, but statistics to prove it are wanting.

A word must be said with regard to the illustrations in Dr. Galabin's Midwifery. Many of them are new, and the majority of them, both new and old, are good. There are, however, some which are so anatomically incorrect, or so incongruous when the essentials of modern midwifery are taken into account, that it is hard to excuse their presence

in a book such as that before us. How can a student understand or remember that the correct anatomical relationships of the bony parts of the pelvis are as shown in C. Braune's frozen sections (Figs. 77 and 78), when a little further on he finds illustrations such as Figs. 82, 97, 98, and 117 to 120? Or how can he reconcile Figs. 74, 106, and 121 with what he is taught concerning the requirements of asepsis?

The reason for the presence of these illustrations is not difficult to find—The blocks are in existence, they were good enough for the previous generation, and they are good enough for the present generation. The answer to the latter part of this is obvious. The blocks were not good enough for a previous generation, who only put up with them because they did not know them to be wrong. Could not the opening of the twentieth century be celebrated by an agreement amongst the London publishers to destroy all incorrect blocks, and thus remove the only reason for reproducing them?

Diseases of Women: a Treatise on the Principles and Practice of Gynæcology. For Students and Practitioners. By E. C. DUDLEY, A.M., M.D., Professor of Gynæcology, North Western University Medical School; Gynæcologist to St. Luke's Hospital, Chicago, &c., &c. London: Henry Kimpton. 1900. Second Edition. 8vo. Pp. 717. With 453 Illustrations and 8 full-page Plates.

WE have much pleasure in welcoming the appearance of the second edition of Dr. Dudley's "Diseases of Women." The rapid sale of the first edition is well deserved, as it was in all respects a most admirable text-book. A considerable amount of new matter has been added to the present edition, and also thirty-one illustrations and four full-page plates.

The arrangement of subjects which Dr. Dudley adopts is good, and will, we consider, give students a clearer idea of the effects of the various forms of genital disease than the arrangement which is usually adopted by other writers. Perhaps the best parts of the book are to be found in the

chapters on "General Principles," relating to major and minor operations, and in the chapters on the various operations.

The illustrations are numerous and, as a rule, excellent. In some of the diagrams Dr. Dudley has allowed his draughtsman to stray from what is anatomically correct, and to fall constantly into the same error, an error of which Figure 180 furnishes a typical example. This is the greater pity, inasmuch as otherwise these diagrams are remarkably good, and are of a kind which is most helpful to the student.

A Text-book of Practical Therapeutics. By Hobart Amory Hare, M.D., B.Sc.; Professor of Materia Medica and Therapeutics in the Jefferson Medical College of Philadelphia, &c. Eighth Edition. Illustrated. London: Henry Kimpton. 1900. Pp. 798.

The object of this work is to supply a guide to the application of remedial measures to diseases and their employment upon a rational basis. That this endeavour has to a great extent been realised is shown by the number of editions of the book that have been called for since its first publication just ten years ago. The seventh edition, which was issued towards the close of 1898, included the official drugs and their preparations contained in the Pharmacopœia of the United States, as well as those in the British Pharmacopœia published earlier in that year. The present edition has been revised and also brought up to date by the addition of a number of new remedies which practical experience, both in Great Britain and in the United States, has proved to be of use.

The book is divided into four parts. Part I. discusses briefly some general therapeutical considerations, such as the different modes of administering drugs, dosage, idiosyncrasy, incompatibility, classification, &c. Part II.—the larger portion of the work—describes the official and non-official drugs in alphabetical order. Without being too concise, the account of the physiological action of the principal drugs is ably done, and in some instances is illustrated by diagrams. The therapeutic indications for the use in different affections

of particular drugs are judicious; and many prescriptions for their administration in various affections are given, which will often afford a valuable hint to the practitioner. In all cases the doses are indicated both in the metric system and according to the imperial or apothecaries' weights and measures. In Part III. a short account is furnished of remedial measures other than drugs—*e.g.*, acupuncture, antitoxin treatment, heat and cold, enteroclysis, hypodermoclysis, transfusion, &c.—and also a chapter on the preparation of certain simple articles of food for the sick. Part IV. deals with the medical treatment of diseases. The "Diseases" are arranged in alphabetical order from "Abortion" to "Worms." The articles on the treatment of diseases of the eyes, on that of venereal diseases, and on those of the puerperal state, are contributed by specialists. While in some cases the treatment recommended—for example, the administration of aconite "in all forms of vomiting due to irritability of the stomach"—may seem unusual to practitioners on this side of the Atlantic, we believe that the book will give valuable suggestions and reliable help to those who consult it. There is a full index of diseases and remedies, which should prove useful for quick reference, in addition to a posological table, and tables of relative weights and measures in the metric and apothecaries' systems.

Orthopædic Surgery: a Text-book of the Pathology and Treatment of Deformities. By J. JACKSON CLARKE, M.B. Lond., F.R.C.S.; Surgeon to Out-patients at the North-West London and City Orthopædic Hospitals; Late Senior Demonstrator, Curator of the Museum, and Pathologist at St. Mary's Hospital. 309 Illustrations. Pp. 442. London: Cassell & Co. 1899.

THIS volume of very moderate size, beautiful printing, illustrations and indexing, is a masterpiece of careful and scientific compilation. A clear reflection of the out-patient department of a large orthopædic hospital, it presents to the surgeon a succinct and exact pathological picture of all deformities with their instruments of correction and methods of cure.

No book with which we are acquainted so fully enters into

the pathological side of deformities, and many dissections and specimens are well reproduced. To all surgeons interested in this branch it is almost indispensable, and is a most classical production. We can, with every confidence, warmly recommend this volume as a most useful and highly instructive treatise, and congratulate Mr. Jackson Clarke upon the completion of what must have been a most arduous task.

The illustrations of deformities and instruments are beautiful.

The Chemists' Compendium. For Pharmacists, Medical Practitioners and Students. By C. J. S. Thompson. Second Edition. Revised and corrected by the B. P., 1898. London and New York: Whittaker & Co.

Contains 313 pages and 55 sections, including a synopsis of the formulæ and processes of the B. P., 1898. The work is a good attempt to give necessary information to all those connected with pharmacy and the collateral scientific subjects connected with the British Pharmacopœia.

The last section, on miscellaneous formulæ, contains some well-selected and modern preparations.

Wright's Improved Physicians', Surgeons' and Consultants' Visiting List. Compiled by Robert Simpson, L.R.C.P., L.R.C.S. Form A. 1901. Eighth Edition. Copyright registered. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co.

This handy Visiting List gains in favour year by year. Its opening pages contain a mine of useful information. To the Visiting List itself is appended a cash account for each month, and at the end of the book there are in sequence a consultants' record, columns for noting obstetric and vaccination engagements, notifications of infectious diseases, nurses' addresses, patients' special addresses, and memoranda. Form B., called the *Perpetual Form*, without fixed dates, is intended for the convenience of those who like to use a list right through without any waste, or to commence the list at other periods of the year than January.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Edward H. Bennett, M.D., F.R.C.S.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—A. V. Macan, M.B.
Sectional Secretary—John H. Glenn, M.D.

Friday, April 20, 1900.

The President in the Chair.

Exhibits.

Dr. Flynn exhibited a specimen of ovarian tumour without any uterine attachment at the time of operation.

Dr. Smyly said he had had an opportunity of seeing the case. It was one of the most interesting he had seen for a long time because of the impossibility of making a diagnosis. What struck him as most peculiar was that the tumour was in the upper part of the abdomen, and there was a clear, resonant space immediately over the pubes. He agreed with Dr. Flynn's view as to the cause of the condition—viz., that the tumour was pushed up into left hypochondrium, and formed adhesions there, and as the uterus afterwards descended into the pelvis there was a drag on the pedicle, causing atrophy and complete separation from the tumour. There could hardly have been twisting of the pedicle, because it would have given rise to violent symptoms.

Dr. Macan said that if the only adhesions were to the omentum, and if the omentum were quite free to come back, he could not see how the separation could have taken place by traction.

Dr. Glenn exhibited a specimen of uterus removed by retro-peritoneal hysterectomy for persistent hæmorrhage.

Dr. Tweedy asked why Dr. Glenn selected the abdominal instead of the vaginal route for the extirpation of the uterus?

Dr. Macan thought it was a case in which atmo-kausis might have been employed.

Dr. Glenn, in reply, said he selected the abdominal method because of the inflammatory condition. Taking everything into account, he thought it was better that the operator should be able to see what he was doing. He did not employ atmo-kausis because he found it never cured myoma.

Fibroma springing from the Ileum, forming a Tumour in Douglas' Pouch, removed by Cœliotomy.

Dr. Kidd exhibited a specimen of a pure fibroma which sprang from the muscular layer of the ileum, and had by its weight dragged a loop of that intestine down into Douglas' pouch. Here the tumour was adherent to the rectum. The adhesions at the time of operation were separated, and the tumour, along with the portion of ileum, brought outside the abdomen. The tumour was removed by a longitudinal elliptical incision about $1\frac{3}{4}$ inches long and $\frac{1}{2}$ inch broad. Both the appearance of the intestine and—what was of more importance—the feeling of the intestine, revealing it to be perfectly normal, no portion of gut was resected. The opening in the intestine was then closed by a double line of transverse Lembert sutures, so as not to diminish the lumen of the bowel. The patient made a very good recovery. A slide under the microscope showed the tumour to be a pure fibroma. One of the chief points of interest in the case is that such a tumour in the pelvis may increase our difficulties of diagnosis greatly. The tumour was about the size of a medium-sized orange. When Dr. Kidd found that the tumour was intestinal he handed it over to Dr. Heuston to finish the operation.

Dr. Tweedy said that nineteen out of every twenty tumours growing from the intestine were malignant, and the majority of men in such an operation would have removed six or seven inches of the bowel on either side. Dr. Kidd appeared to have decided that the tumour was not malignant at the time of operation.

Dr. Kidd, in reply, said that the line of demarcation of the portion from which the tumour was growing was clearly drawn, and the feel of the intestine all round was proof that it was normal.

Short Notes on a Case of Round-celled Sarcoma of both Ovaries, with Specimens, Photographs, and Microscopic Preparation.

Dr. Kidd, read a paper on this subject.

Dr. Smyly thought the most important point was to get absolutely clear of the disease if possible. If a microscopist were present at the operation, so that specimens could be examined on the spot, the operator could give a fair guess as to whether he had got outside the disease.

Dr. Cole-Baker said he had assisted at the operation, and he thought Dr. Kidd should be congratulated on his extreme pluck in removing the second ovary.

Dr. Macan said it would be interesting to know whether there was less danger of return in spindle-celled sarcoma than in the soft variety; also whether there was greater likelihood of general infection in a case of malignant disease of both ovaries than where only one ovary was affected.

Dr. Kidd, in reply, said he thought there was a better chance in the spindle-celled than in the other variety. It would be much more favourable if only one organ was affected. Where the two were engaged there was probably some general cause at work. Whenever the disease was found extending beyond the ovary the case ended disastrously.

Porro's Operation for Ruptured Uterus complicated by Myoma and five and a half months' Pregnancy.

Dr. Cole-Baker read a paper on this subject. [It will be found at page 421.]

Dr. Kidd said it was rather difficult to understand how it was that after a great many efforts had been made to relieve the uterus it went back almost by accidental manipulation. He could not account for the rise in temperature, especially as there was no evidence of suppuration. The patient was moribund on the table, and he had very little hope that she would make as good a recovery as she had made.

Dr. Smyly said he could not help thinking that the cause of the fever was in the tumour, because it disappeared immediately after the removal of the tumour. As to the reduction of the tumour, probably the greater portion of it had been pushed above the pubes by previous attempts, and it was only a coincidence that it went up during Dr. Fleming's manipulation.

Dr. Macan agreed that the tumour was the cause of the temperature. He did not think there could possibly be a question of rupture in the ordinary sense. If it had been ruptured, where was

the hæmorrhage? He thought labour itself might be sufficient to so separate the tumour from its surroundings as to cause it to become a dead body, which might become infected from the rectum.

Dr. Cole-Baker, in reply, said that from the ease with which the tumour was replaced, he did not think there could have been any adhesions. There was no trace of hæmorrhage into the abdominal cavity, or of broken-down adhesions in Douglas' pouch or to the intestines. As to infection from the rectum, the same suggestion was made at the Clinical Club, but it was pointed out that before the occurrence of infection there would have been some adhesion.

The Section then adjourned.

Friday, May 25th, 1900.

The President in the Chair.

Exhibits.

Dr. Alfred Smith showed a specimen of ruptured tubal pregnancy, consisting of the distended tube showing rupture, the fœtus, 3 cm. long, with umbilical cord and placenta. It was removed from a patient aged thirty-three, who gave birth to a full term child six months before. Menstruation returned one month after confinement and continued regularly up to time of rupture; no period had been missed. The patient was brought up to town from Kilkenny; normal convalescence.

Dr. Jellett asked if it was quite safe to bring up a ruptured tubal pregnancy from Kilkenny.

Dr. Macan observed that the two tubal pregnancies were within a very short period of each other. It was not at all necessary for the changes to have ceased. A continuous hæmorrhage after a five or six weeks' type of menstruation was said to be typical of ruptured tubal pregnancy.

Dr. Smith, in reply, said that Dr. Jellett's question had occurred to him, but he saw that in this case there was no free peritoneal hæmorrhage. It was simply a mass occupying the broad ligament. There was no rise of temperature, and the case seemed to him to be safe to bring up. He had brought up a similar case from Newry, and another from a like distance, but in these cases the hæmorrhage was temporarily arrested, and there was a likelihood of a recurrence taking place. Each of the three cases which he had brought up from the country had proved successful.

Ectopic Gestation.

Dr. Smyly read notes on a case of ectopic gestation, and exhibited specimen.

Dr. Kidd said this patient had called on him at his own house with the object of knowing why it was menstruation had lasted so long (it had lasted about a fortnight at the time), and she was rather amazed when he told her that she must keep herself under observation for a few days. It was just while these few days were elapsing that this accident occurred, so that it was really the continuation of the ordinary menstrual period longer than she thought it should, that made her seek medical advice. It was ten days before the rupture that he saw her.

Dr. Smith remarked that a small ovum causing such a profuse hæmorrhage was a striking point, because in his case they had a small fœtus not giving rise to nearly so much hæmorrhage.

Dr. Macan said they would all agree that there were cases where the hæmorrhage stops for a certain time, but he did not know how they could tell whether it was going to re-commence or not. He quite recognised that in certain cases they would not be afraid of the hæmorrhage, because there was a solid lump formed. In such cases why not give it a chance of becoming absorbed itself?

Dr. Kidd further remarked that he was absolutely certain that until the accident happened, this patient was perfectly well, so that there was no question of any internal hæmorrhage before the sudden rupture.

Dr. Smyly had no remarks to make in reply.

Notes of a successful Case of Pan-hysterectomy performed on the Prëgnant Uterus at Full Term, with Specimen.

Dr. Kidd brought forward this case, on account of the rarity of the operation. The history was briefly as follows:—"Patient, Mrs. M. N., was admitted to the Coombe Hospital, at 9 30 p.m. on Sunday, the 14th of January, 1900. She came from Johnstown, Co. Kildare. She was sent up by Drs. Robinson and Waters. She had been in labour from early on the preceding day. She was a primipara of over 40 years of age. The medical men in charge could not reach the presenting part owing to the whole of the true pelvis being blocked with myomatous growths. When examined in the Coombe Hospital, some presentation like an arm could just be touched, but no definite diagnosis could be made. Patient was much exhausted, pulse was 120, temperature

only 98, and she had vomited. It was recognised that by no other means than operation could she be delivered, there was no fœtal heart to be heard, and patient had felt no movement for some time before admission. Operation was performed in the middle of the night, in the maternity wards, under considerable difficulties. Patient was made as aseptic as possible. Abdominal incision extended from two inches above pubes to two inches above umbilicus. The broad ligaments were first ligated, and then cut, then the round ligaments, then the peritoneum on outer surface of uterus was divided transversely and stripped down, taking the bladder with it; the uterine vessels were tied, and when the peritoneum had been stripped down posteriorly the vagina was cut across, as close to the presenting head and arm as possible. Vagina was inverted and sutured, turning in the mucous membrane, broad ligaments were brought together, and in the middle line the peritoneum attached to the anterior surface of the bladder was sutured to the peritoneum on the posterior wall of the vagina, completely covering over the stump of the vagina, and leaving the pelvis quite clean and dry; the ligatures on the uterine vessels had been drawn down before the peritoneum was stitched over them. The convalescence of the patient was uninterrupted, with the exception of the fact that some urine commenced dribbling from the vagina about the 9th day after operation; a silk ligature was found in the cul-de-sac of the vagina, but was too fixed to remove; there was no evidence of any fistula except alongside this ligature. It finally came away, the urine ceased dribbling at once, and the patient got quite fat and perfectly well. Her temperature at no time exceeded 100·4°, The operation proves that cases in the country, apparently of a desperate nature, can be removed to centres where operation may successfully relieve them. The specimen, which was exhibited, contained the child in the uterus, only the head and one shoulder having escaped from it. To Dr. M'Weeney, Dr. Kidd wished to return thanks for advice in the method of preserving the specimen, which was as follows:—Fluid No. 1—Formalin, 10 parts; acetate of potassium, 15 parts; chloride of potassium, 5 parts; water, 100. Place specimen in this for 48 hours, changing at end of 24 hours. Fluid No. 2—Methylated spirit, 80; water, 10 parts. No. 3—Pure methylated spirit. Place in this for 48 hours. Fluid No. 4—Glycerine, 20 parts; acetate of potassium, 10 parts; water, 100 parts. Preserve specimen permanently in this.

Dr. Macan observed that the incision in the abdomen might

have been smaller if the child had been treated as in a Cæsarean section from the first.

Dr. Smyly said that this case reminded him of a case in the Rotunda sent to him from St. Vincent's Hospital because operation on it would not be allowed there. He first did a Cæsarean section on it, and then he removed the uterus and the tumour. He was, in those days, in the habit of extirpating the cervix by the vagina, and on doing this he found that there was another uterus.

Dr. Kidd replied:—As to making a small opening and proceeding as in Cæsarean section, the indication was to remove the tumour as quickly as possible. They treated the child as if it did not exist. With regard to the length of the incision, it was the usual thing to make an incision extending an inch and a half or 2 inches above the umbilicus. Of course the longer the incision the more chance of a subsequent ventral hernia. The termination was satisfactory, and he had the patient under observation in hospital for a considerable time after the operation.

On the Treatment of the Third Stage of Labour, with especial reference to the Dublin Method.

Dr. Henry Jellett read a paper on this subject. [It will be found in Volume CIX., page 412.]

Dr. Smyly said that they, as representing the Dublin school, should be thankful to Dr. Jellett for the proofs which he had brought forward. Nevertheless, he thought that there was a distinction between Credé's method and the Dublin method. The fault of Credé's method was that it was too active, and if they expelled the placenta too soon they might leave portions behind leading to post-partum hæmorrhage and sub-involution. In his work on midwifery, Professor Spiegelberg, who had seen both methods practised by the people responsible for them, Credé's by Credé, and the Dublin method when he visited Dublin, said the Dublin method was superior, because it was not so active, as it waited till the placenta had been expelled from the uterus, and it then expelled it from the vagina. Another point likely to be lost to the Dublin school was the method of preserving the perineum, generally known as von Ritgen's method, which undoubtedly originated in Dublin.

Dr. Cole-Baker took exception to the word "pressure," which was a vague term. Credé's method seemed to him one of the vaguest methods in the world, and in a paper of his, published in the *Dublin Journal of Medical Science* of December last, he

asked what was Credé's method. Credé's method, as he took it, was squeezing the uterus, and making the placenta slip out, whether into or beyond the vagina, like an orange pip on being squeezed out. Once the placenta has left the uterus it cannot be called a method of expression. If they push the uterus down, and thereby press out the placenta, it was a method of detrusion, not expression. Credé's method, he believed, was very much misunderstood.

Dr. Macan said the question was whether the Dublin method was, first of all, ever the same as Credé's, and if so, which was the first in the field. He made this the subject of his Address at the Obstetrical Section of the British Medical Association held in Dublin in August, 1887. He proceeded to read paragraphs from this Address bearing on the matter. As far as he could see, the Dublin method differed in that, in it, the hand was applied to the abdomen, and pressure begun as soon as the child's head was born, the pressure being used to express the shoulders, and then continued to expel the placenta. He wished to emphasise the fact that the Dublin method begins before the third stage of labour—namely, the moment the child's head is born. He was convinced that in the great majority of cases the third stage of labour should be left alone as well as the second stage. He could not agree with the statement that Credé's method was vague.

Dr. Jellett, replying, said he could not see how Credé's method was more active than the Dublin method. At the start it was more active, but the Dublin method had changed. He thought Dr. Macan agreed with him that the title Credé's method should be applied to the general principle by which manual removal of the placenta was obviated. He had purposely in his paper omitted any reference to anything before the third stage, because there was an impression that the Dublin method included not only getting rid of the placenta but also expelling the child.

The Section then adjourned.

SECTION OF STATE MEDICINE.

President—Sir C. A. Cameron, C.B., M.D.

Sectional Secretary—Ninian Falkiner, M.D.

Friday, April 27, 1900.

The President in the Chair.

Commercial Pepsin.

Sir C. Cameron read a paper on this subject. [It will be found in Vol. CIX., p. 409.]

Asylum Pathology.

Dr. W. R. Dawson read a paper on this subject.

Dr. Ninian Falkiner suggested that something might be accomplished if the Section sent up a petition to the Council to memorialise responsible bodies on the subject.

Dr. Conolly Norman remarked that the London County Council had formed a Commission which had instituted a number of minute inquiries on the subject, and had issued several volumes of evidence which tended to prove that their methods for the cure of insanity lagged behind those of Medicine in general.

Sir C. Cameron spoke in favour of a pathological laboratory such as was suggested. He was surprised at the small cost which Dr. Dawson thought it could be kept up at. He remembered seeing in "Tidy's Chemistry" a curious statement that in the brains of idiots there was a smaller amount of cerebro-phosphorus than in the sane, whereas in the insane there was a greater amount. It would follow from this that they should withhold phosphoric food from the insane, and be more liberal with it in the case of the idiotic. In a pathological institute they might ascertain many facts of that kind which might have an important bearing on the treatment of the insane.

The Medico-Legal Relations of General Paralysis.

Dr. Conolly Norman read a paper on the Medico-Legal Relations of General Paralysis. He said that it is natural that the great cerebral disease which forms in itself an epitome of all mental affections should often bring its victims into conflict with the law. But besides the general tendency of all mental disease to cause maladjustment with the social environment, often expressing itself in the form of "crime," there appeared to the speaker to be certain special features in the criminality of the general paralytic

which made him of particular interest to the medical jurist. Dr. Norman proceeded to consider the general paralytic's offences under three heads—1. Violence, of a peculiar brutish and irrational character. 2. Sexual impropriety, depending, no doubt, in part upon the lack of judgment, which is the essential feature of the malady, and partly upon the sexual irritability common in its earlier stages. 3. Theft. A number of cases were detailed, exemplifying each form, and some illustrating all. With regard to theft, the speaker pointed out that the common notion is quite erroneous—namely, that the thefts of the general paralytic are always *vols à létalage* and characterised by silliness and absence of purpose. On the contrary, in certain cases which he mentioned, fraudulent acts of considerable subtlety had been the earliest overt symptoms of general paralysis.

Dr. Dawson asked if he rightly understood that the attacks of violence resembled the congestive attacks of epilepsy. With reference to the sexual impropriety, the point of interest was that victims of locomotor ataxy were frequently affected in the same way at the beginning of the disease, though, of course, later on they lost sexual power altogether.

Dr. Doyle spoke about syphilis as an antecedent to general paralysis. A tremulous mode of articulation was often observed long before the disease appeared, and he knew of one case in which a noted speaker, the father of a general paralytic, evinced this peculiar tremulous speech.

Dr. Martley said he knew personally a young man who was highly intellectual, a brilliant chess-player, and the first sign of the disease that he gave was an uncontrollable attack of violence.

Sir C. Cameron said that in a case that came under his notice the first evidence of his being *non compos mentis* was his non-appearance to give a lecture in Brighton for which he had made great preparations. He had totally forgotten about his intention to lecture that night. It turned out to be a case of general paralysis, and he subsequently died in Swift's Hospital. This bore out the remark that forgetfulness was often one of the earliest symptoms, and its sudden onset was evinced in this case.

Dr. Conolly Norman, in reply, said he meant to convey that the violence was the same kind of unreasoning, intense, and uncontrolled violence as they saw in an epileptic, but he did not associate it with the epileptic phenomena. He had never met a case exactly like Sir C. Cameron had mentioned—namely, commencing with a sudden attack of amnesia.

The Section then adjourned.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—Professor W. H. Thompson, M.D.

Sectional Secretary—A. Birmingham, M.D.

Friday, June 1, 1900.

Professor D. J. Cunningham, F.R.S., in the Chair.

Recent Researches on Cranio-Cerebral Topography.

This paper, the work of Dr. E. H. Taylor and Mr. W. S. Haughton, was read by Dr. Taylor.

Mr. Haughton explained the principal points connected with the skiagrams by means of a diagram, and he pointed out that any possible fallacy which might arise by reason of divergence of the rays was so small as to be practically negligible.

Professor Cunningham endorsed what had been said as to the extreme value of the paper. The first researches on the topography of the brain were made almost simultaneously in France and Edinburgh. In France they adopted the clumsy method of boring holes in the skull, and inserting pins through them, after which the brain was removed. Turner adopted the better method of removing small portions of the cranial wall, and carefully marking the piece of brain surface so exposed. In Dublin they could claim the credit of having first attempted to fix the relation between the brain and the cranium. Two questions occurred to him regarding the method made use of by Drs. Taylor and Haughton. First, what was the range of error possible in photographs of that kind? and second, what was the possibility of error where, as in the present case, the brain was taken out and then replaced?

Dr. Dawson noted that Dr. Taylor adopted Flechsig's views, but more recent observers seemed to be of opinion that sensory fibres did pass to the association centres. Still, Flechsig was substantially right, because, even supposing that a certain number of sensory fibres were found to reach the association centres, that did not prove that the greater part of these centres was not devoted to the work of association. It simply showed that no one part of the cortex was alone concerned with any particular sensation, but that certain portions were devoted principally to sensation and others to association.

Dr. Taylor, replying to the second question, said that in taking out the brain he noticed certain parts corresponding to particular portions of the skull, and so was able, in replacing it, to ascertain that it occupied its original position. He removed the temporal

pole that there might be no difficulty in getting the brain under the lesser wing of the sphenoid.

The Nasal Fossæ.

Dr. Fagan gave a lantern demonstration of a series of normal and pathological nasal fossæ prepared to show the various parts of these cavities and their relations to the surrounding structures.

Dr. Haughton, speaking of some investigations he had carried out, said he had found the fourth meatus, when it occurred, occupied a much more posterior position. With regard to air cells in the middle turbinated bone, he had seen only one instance, and in that it did not communicate with the antrum of Highmore.

Professor Cunningham thanked Mr. Fagan in the name of the Section for his very interesting communication, which showed how well one could demonstrate the nasal cavity by photographs.

Configuration of the Heart.

Dr. Charles J. Patten read a paper on "The Configuration of the Heart in Man, and some other Mammalian Groups." The communication dealt chiefly with the modifications in form which have taken place in the heart of man following the erect posture. In specially hardened specimens the conical shape of the human heart had almost disappeared. In many quadrupeds which carried the trunk prone the true conical shape of the heart persisted. The relations of the fibrous pericardium to the heart and diaphragm was indicated in different groups of animals. Some lantern slides illustrating Dr. Patten's remarks were exhibited.

The Lymph Circulation.

Mr. J. S. Ashe read a note on the lymph circulation, in which he advanced the view that one of the forces which helped to carry on the lymph circulation was the dilatation of the aorta, which took place at each systole of the heart, pressing on the thoracic duct, and increasing the pressure in the posterior mediastinum. His theory was illustrated by a very ingenious schema, which showed, by means of elastic tubes, the suggested effect of the dilatation of the aorta on the thoracic duct.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir J. W. Moore, B.A., M.D. Univ. Dubl.;
Ex-P.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four weeks ending Saturday, November 3, 1900.

IRELAND.

Twenty-three Town Districts.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ending November 3 in the Dublin registration area and the twenty-two principal provincial urban districts of Ireland was 20·2 per 1,000 of their aggregate population, which, for the purposes of these returns, is estimated at 1,062,188. The deaths registered in each of the past four weeks, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Oct. 13	Oct. 20	Oct. 27	Nov. 3			Oct. 13	Oct. 20	Oct. 27	Nov. 3	
23 Town Districts	20·9	20·3	19·3	20·2	20·2	Limerick -	21·1	11·2	19·6	11·2	15·8
Armagh -	28·5	7·1	21·4	7·1	16·0	Lisburn -	12·8	34·1	12·8	4·3	16·0
Ballymena	33·8	33·8	11·3	5·6	21·1	Londonderry	18·8	14·1	29·8	20·4	20·8
Belfast -	19·3	16·3	19·0	19·2	18·5	Lurgan -	31·9	18·2	22·8	9·1	20·5
Carrickfergus	11·7	11·7	23·4	11·7	14·6	Newry -	8·1	28·2	8·1	12·1	14·1
Clonmel -	4·9	29·2	19·5	73·0	31·6	Newtownards	28·3	28·3	17·0	34·0	26·9
Cork -	15·9	23·5	20·1	16·6	19·0	Portadown -	0·0	24·7	24·7	12·4	15·5
Drogheda -	19·0	15·2	19·0	30·4	20 9	Queenstown	23·0	0·0	5·7	5·7	8·6
Dublin - (Reg. Area)	26·4	24·9	20·0	21·9	23·3	Sligo -	15·2	35·5	10·2	40 6	25·4
Dundalk -	16·8	41·9	20·9	16·8	24·1	Tralee -	5·6	0·0	5·6	33·6	11·2
Galway -	22·7	11·3	7·6	30·2	18·0	Waterford -	9·9	23·9	25·9	21·9	20·4
Kilkenny -	33·0	18·9	14·2	23·6	22·4	Wexford -	4·5	4·5	18·1	13·5	10·2

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from the principal zymotic diseases registered in the 23 districts during the week were equal to an annual rate of 2·0 per 1,000—the rates varying from 0·0 in fifteen of the districts to 11·7 in Carrickfergus—the 2 deaths registered for that district being from measles. Among the 132 deaths from all causes registered for Belfast are 2 from measles, 2 from whooping-cough, 2 from diphtheria, 7 from enteric fever, and 5 from diarrhœa. The 24 deaths in Cork include 3 from diarrhœa.

DUBLIN REGISTRATION AREA.

In the Dublin Registration Area the births registered during the week amounted to 186—97 boys and 89 girls; and the deaths to 152—79 males and 73 females.

Deaths.

The deaths, which are 29 below the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 22·7 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the area, the rate was 21·9 per 1,000. During the 44 weeks ending with Saturday, November 3, the death-rate averaged 29·2, and was 2·1 over the mean rate for the corresponding portions of the 10 years 1890–1899.

Sixteen deaths from zymotic diseases were registered during the week, being 4 under the number which were recorded in the preceding week, and 9 under the average for the corresponding week of the last 10 years. This number includes 5 deaths from diarrhœal diseases, 3 deaths from enteric fever, 3 deaths from whooping-cough, and one death each from measles, scarlatina, and influenza.

Tubercular disease caused 25 deaths, comprising 16 deaths from pulmonary tuberculosis, 4 deaths from tabes mesenterica, 3 deaths from tubercular meningitis, and 2 deaths from scrofula.

Diseases of the respiratory system caused 36 deaths—27 deaths were caused by bronchitis and 7 deaths by pneumonia. The total, 36, is over the average for the corresponding week of the last 10 years by 2, and 7 over the number which took place in the preceding week.

The deaths of 9 children were caused by convulsions. Of these children 5 were under one year in age and above one month, 3

were under 5 years but over one year in age, and one was under a month old.

Apoplexy caused 3 deaths, cancer caused 10 deaths, diseases of the circulatory system caused 9 deaths.

Seven accidental deaths were registered.

STATE OF INFECTIOUS DISEASE IN DUBLIN.

(1.) Cases of Infectious Diseases Notified to the Public Health Committee of the Corporation.

Sir Charles A. Cameron, C.B., Medical Superintendent Officer of Health for the City of Dublin, has furnished the following information regarding the number of cases of Infectious Diseases in the City of Dublin, notified under the "Infectious Disease (Notification) Act, 1889":—

Week ending	13th October	...	76 cases.
,,	20th October	...	49 cases.
,,	27th October	...	65 cases.
,,	3rd November	...	85 cases.

Of the 85 cases notified, 10 were erysipelas, 25 enteric fever, 11 scarlatina, 27 measles, 8 continued fever, 3 typhus fever, and one diphtheria.

(2.) Cases of Infectious Diseases in Rathmines Urban District.

Mr. Fawcett, Executive Sanitary Officer for Rathmines Urban Council, has furnished information regarding the number of cases of infectious diseases in the Urban District of Rathmines notified under "The Infectious Diseases (Notification) Act, 1889," as follows:—

Week ending November 3rd, 1900	...	14 cases.

Of the 14 cases notified 6 were enteric fever, 5 scarlatina, 2 erysipelas, and one diphtheria.

(3.) Cases of Infectious Diseases under Treatment in Dublin Hospitals.

Thirteen cases of enteric fever were admitted to hospital, 13 were discharged, and 80 cases remained under treatment at the close of the week.

Fifteen cases of scarlatina were admitted to hospital, 9 were discharged, one died, and 75 remained under treatment at the close of the week. This number is exclusive of 15 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

One case of typhus fever was admitted to hospital, 4 cases were discharged, and 4 remained under treatment at the close of the week.

One case of diphtheria was admitted to hospital, 3 cases were discharged, and 10 cases remained under treatment at the close of the week.

Twenty-three cases of measles were admitted to hospital, 3 were discharged, and 49 cases remained under treatment at the close of the week.

ENGLAND AND SCOTLAND.

The mortality for the week in thirty-three large English towns, including London (in which the rate was 16·7), was equal to an average annual death-rate of 16·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19·6 per 1,000, the rate for Glasgow being 22·4, and for Edinburgh 15·1.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of October, 1900.

Mean Height of Barometer,	29·913 inches.
Maximal Height of Barometer (22nd, at 7 a.m.),	30·650 „
Minimal Height of Barometer (4th, at 9 a.m.),	29·329 „
Mean Dry-bulb Temperature,	49·3°.
Mean Wet-bulb Temperature,	47·4°.
Mean Dew-point Temperature,	45·3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·306 inch.
Mean Humidity,	86·6 per cent.
Highest Temperature in Shade (7th),	66·4°.
Lowest Temperature in Shade (28th),	36·7°.
Lowest Temperature on Grass (Radiation) (16th),	30·6°.
Mean Amount of Cloud,	59·3 per cent.
Rainfall (on 21 days),	3·469 inches.
Greatest Daily Rainfall (on 9th),	·688 inch.
General Directions of Wind,	W., N.W., S.W.

Remarks.

October, 1900, was a changeable, rainy, damp month. Anticyclonic systems prevailed in the British Islands from the 9th to the 12th, and from the 18th to the 24th. For the rest, atmospheric pressure was in very unstable equilibrium. A period of unusual

warmth occurred from the 6th to the 9th inclusive. The 31st was also a warm day. An extraordinarily heavy fall of rain and sleet was reported from the North of England on the 26th—3·67 inches being recorded at Alnwick, 3·29 inches at Seaham, and 3·07 inches at Cockle Park, Morpeth.

In Dublin the arithmetical mean temperature (50·4°) was slightly above the average (49·7°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 49·3°. In the thirty-five years ending with 1899, October was coldest in 1892 (M. T.=44·8°), and in 1896 (M. T.=45·0°). It was warmest in 1876 (M. T.=53·1°). The M. T. in 1898 was 52·8°.

The mean height of the barometer was 29·913 inches, or 0·073 inch above the corrected average value for October—namely, 29·840 inches. The mercury rose to 30·650 inches at 7 a.m. of the 22nd, having fallen to 29·329 inches at 9 a.m. of the 4th. The observed range of atmospheric pressure was, therefore, 1·321 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 49·3°, or 6·5° below the value for September, 1900. The arithmetical mean of the maximal and minimal readings was 50·4°, compared with a twenty-five years' average of 49·7°. Using the formula, *Mean Temp.* = *Min.* + (*Max.*—*Min.* × ·485), the mean temperature was 50·2°, or 0·7° above the average mean temperature for October, calculated in the same way, in the twenty-five years, 1865–89, inclusive (49·5°). On the 7th the thermometer in the screen rose to 66·4°—wind, S.W.; on the 28th the temperature fell to 36·7°—wind, W. The minimum on the grass was 30·6° on the 16th. The thermometer did not sink to 32° in the screen, but frost occurred on the grass on 5 nights.

The rainfall was 3·469 inches, distributed over 21 days—the rainfall and the rainy days were decidedly above the average. The average rainfall for October in the twenty-five years, 1865–89, inclusive, was 3·106 inches, and the average number of rainy days was 17·6. In 1880 the rainfall in October was very large—7·358 inches on 15 days. In 1875, also, 7·049 inches fell on 26 days. On the other hand, in 1890 only ·639 inch fell on but 11 days; in 1884, only ·834 inch on but 14 days; and in 1868 only ·856 inch on 15 days. In 1899 the October rainfall was 1·538 inches on 11 days.

Lightning was seen on the night of the 26th. High winds were noted on 11 days, and attained the force of a gale on three occasions—the 4th, 6th, and 13th. The atmosphere was more or less foggy in Dublin on the 9th, 17th, 19th, 21st, and 28th. Lunar

halos were seen on the 3rd and 9th. Hail fell on the 26th. The duration of bright sunshine was estimated at 127·25 hours.

The rainfall in Dublin during the ten months ending October 31st amounted to 27·863 inches on 177 days, compared with 12 366 inches on 123 days during the same period in 1887 (the dry year), 24·081 inches on 179 days in 1897, 21·547 inches on 156 days in 1898, 22·486 inches on 149 days in 1899, and a twenty-five years' average of 22·840 inches on 160·4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in October amounted to 3·290 inches on 15 days. Of this quantity ·520 inch fell on the 3rd. From January 1st, 1900, up to October 31st, rain fell at Knockdolian on 155 days to the total amount of 33·311 inches. In 1893 the rainfall in the corresponding ten months was 17·801 inches on 133 days; in 1894, 32·221 inches on 154 days; in 1897, 32·730 inches on 171 days; in 1898, 24·177 inches on 140 days; and in 1899, 30·000 inches on 150 days.

At Cloneevin, Killiney, Co. Dublin, the rainfall in October was 2·83 inches on 17 days, compared with ·710 inch on 14 days in 1893, 6·460 inches on 17 days in 1894, 2·280 inches on 11 days in 1897, 3·530 inches on 18 days in 1898, 1·240 inches on 12 days in 1899, and a fifteen years' average (1885–1899) of 3·18 inches on 15·7 days. On the 9th ·63 inch fell. Since January 1, 1900, 27·97 inches of rain have fallen at this station on 171 days.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall in October was 3·551 inches on 14 days, compared with 3·175 inches on 13 days in 1897, 4·385 inches on 17 days in 1898, and 1·484 inches on 11 days in 1899. Of this quantity, ·540 inch was recorded on the 3rd. The highest temperature in the screen was 65·0° on the 2nd, the lowest was 36·0° on the 15th. At this Second Order Station the rainfall from January 1 to October 31, inclusive, amounted to 28·599 inches on 150 days, compared with 26·479 inches on 139 days in the corresponding 10 months of 1898, and 27·643 inches on 140 days in 1899.

At the Railway Hotel, Recess, Co. Galway, the rainfall was 8·307 inches on 24 days, ·840 inch being registered on the 6th, and ·730 inch on the 8th. On the 26th there were frequent hailstorms. At this Station October was the wettest month so far experienced in 1900. On six days the rainfall exceeded half an inch, four of these days occurring consecutively. The rainfall for the month was 5·046 inches in excess of that recorded in October, 1899—namely, 3,261 inches on 17 days.

PERISCOPE.

A CORTICAL CENTRE IN THE RABBIT'S BRAIN FOR CONTRALATERAL PUPILLARY CONTRACTION.

Dr. J. Piltz has discovered a spot in the cerebral cortex of the brain of the rabbit which, when stimulated, causes contraction of the pupil of the opposite side without any alteration of the pupil on the side of stimulation. The point is situated at the junction of the occipital and parietal regions in the shallow groove which runs from the cerebellar margin upwards, forwards, and inwards to the longitudinal fissure. Dr. Piltz shows that this unilateral action is not so remarkable as appears at first sight, for in the rabbit, in whom the visual field is distinct for each eye, a light thrown on one eye causes contraction of the pupil of that eye only, so that in this animal the consensual light reaction of the pupils is wanting.—*Neurologisches Centralblatt*, 1899, No. 19.

MULTIPLE STENOSIS OF THE SMALL GUT.

Dr. Erdheim (*Wien. klin. Woch.*).—Generally these cases of stenosis were due to phthisis fibrinosa with ulcers. The autopsies in each case demonstrated the presence of cicatrices of old tubercular ulcers. In one case the microscope detected the cicatrices, which otherwise would not have been recognised. In two cases the stenoses were the result of hypertrophied tubercles, which had attained the size of small tumours. There were no adhesions to surrounding parts in the five cases that came under the observation of the author. The treatment consisted in entero-anastomosis.

STENOSIS OF THE ILEUM.

M. Tuffier (*Presse Médicale*).—Stenosis of the small intestine, since the paper on the subject by M. Bernay, of Lyons, is known to be much more common than was formerly imagined. Of tubercular stenosis there are three distinct varieties—(1), the cicatricial; (2), the fibrous; (3), the hypertrophic. The cicatricial commences at the cicatrix of a tuberculous ulcer in the mucous membrane of the bowel. The stenosis here is due to the production of fibrous tissue at the point of the old lesion, and contracts the tissues as it does those of aponeurosis and those of irreducible flexions. The fibrous stenosis is fibrous from the first, and is not secondary to ulceration. It usually ends in retraction of the diaphragm, or increase in the intestine. The hypertrophic stenosis is the least

frequent of the varieties. It is characterised by a mixture of bacillary lesions and ordinary inflammation. It is a tuberculous inflammation, spread over the mucous, submucous, and muscular tissue, that is followed by ordinary inflammation, due to a secondary infection superadded, which found a seat in the altered coats of the intestine. It is always the result of an enteritis.

CHRONIC APPENDICITIS.

Dr. Pasquerel (*Rev. G. de Path.*).—Chronic appendicitis is due to the same causes that produce the acute variety, and is not always secondary to the acute form of the disease. It is usually the product of habitual constipation. The diagnosis is not difficult when it follows on an acute attack; but is difficult when the attack is primary, and accompanied by digestive troubles. It then simulates many diseases—more particularly ileo-cæcal tuberculosis and neoplasms of the same region.

REST IN ULCER OF THE STOMACH.

M. Lyonneh, of Lyons, treats ulcer of the stomach by giving the viscus absolute rest. He diets the patient, per anum, on milk containing a small quantity of bicarbonate of sodium. To this diet he confines the patient for eight days. His procedure is :—Injections of water are given twice a day, and the alkalised milk injections thrice a day. In the specified time he finds the patients to put on flesh—usually eight kilograms is added to the weight.—*Gazette des Hôpitaux.*

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

A New Form of Lead and Opium Suppository.

Messrs. Burroughs, Wellcome & Co. have designed and prepared a rectal suppository of lead and opium which commends itself as eminently serviceable. This lead and opium "enule"—as it is called—has been introduced as a convenient means of obtaining the astringent and sedative effects of lead acetate and opium in the rectum. Its use would appear to be indicated in the treatment of dysentery, and (we would add) in the diarrhœa of enteric fever also. Each "enule" lead and opium suppository contains—Lead acetate, gr. 3 (0·194 gramme); powdered opium, gr. 1 (0·065 gramme). The general advantages of "enule" rectal suppositories have already been brought under the notice of our readers in the number of this Journal for November, 1900 (Vol. CX., page 415).

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